



CHAPTER 3

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CLIMATOLOGICAL SUMMARY

McCall, Idaho
Latitude 44° 54' N
Longitude 116° 7' W
Elevation 5,027 feet

Introducticon

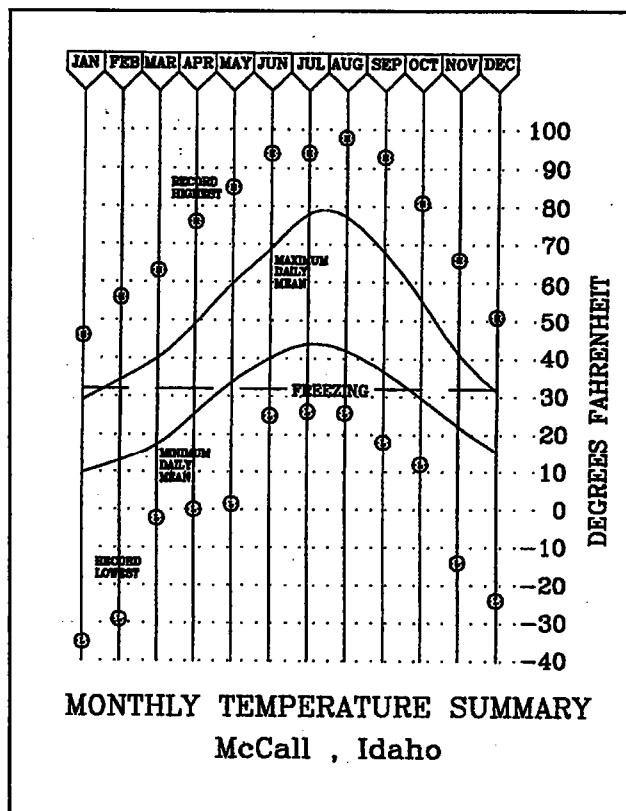
The McCall area is characterized by mild summers and cold, wet winters. McCall's climate is influenced by nearby mountains and lakes, and by its altitude and latitude. Because of the mountains, McCall is spared most of the cold blasts from Canada, yet warm Pacific winds sweep in to provide the upland continental climate characteristic of the area.

Temperature

McCall's average annual temperature is 40.2 degrees F, with summer highs in the 70s and lows in the 40s. Winter highs average close to freezing, with lows in the mid teens. Temperatures below zero are common, but not for extended periods.

The surface of Payette Lake freezes almost every year. The earliest recorded freeze date was December 12 in 1919. The earliest break up was April 5 in 1950.

Since record-keeping began in 1902, temperature extremes have ranged from a high of 104 degrees F in August 1928 to a low of minus 35 degrees F in January 1943. On average, there are three days per year with temperatures reaching 90 degrees or higher and 20 days when the tempera-



ture falls to zero or below.

Chart 3.1

Growing Season

The growing season is defined as the period of time between the average date of the last 32 degrees F temperature in the spring and the first 32 degrees F temperature in the fall. McCall's average growing season is 69 days, June 16 to August 24.

Precipitation

Average annual precipitation is nearly 28 inches; 48 percent of it falls November through February, mainly as snow. July is the driest month. The greatest total for any month was 8.75

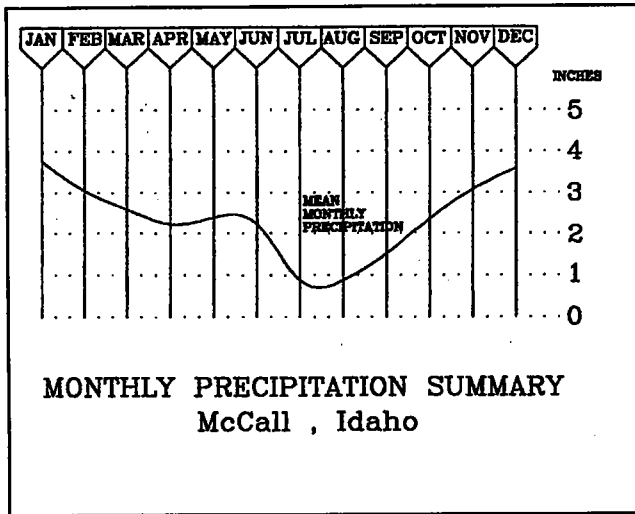
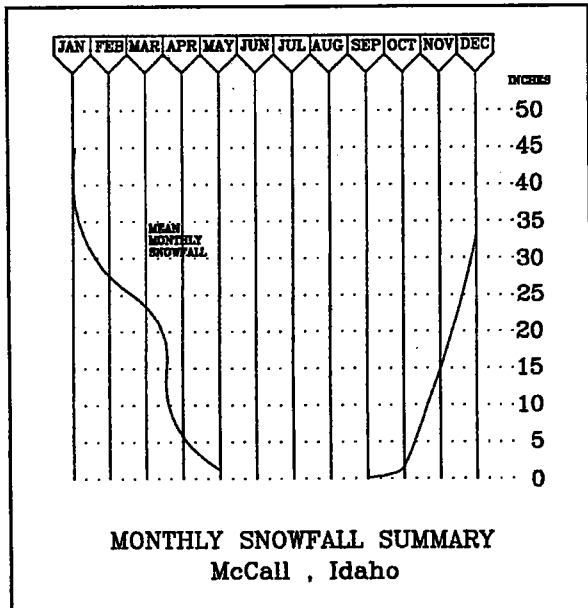


Chart 3.2

Snowfall

Average annual snowfall in McCall is 60 inches, but it does not accumulate to that depth because of settling and thawing. Winter sports in the area generally begin in November and continue through March. More

Chart 3.3



inches recorded in December 1 9 6 4 . McCall averages 16 days per year with a 1½ inch of rainfall and 4.8 days a year with one inch or more.

Wind

Prevailing winds, averaging 3-4 knots, are influenced by the valley and surrounding mountain ridges. During the summer, winds are gentle and generally from the southwest. In the winter, winds shift and are primarily from the northwest, which bring storms. Fall and spring are transition periods and the winds can blow from almost any direction. Thermal updrafts occur during hot summer afternoons. Because of the proximity of mountains and associated forest lands, damaging winds are rare. The strongest winds occur in connection with thundershowers during the late spring and summer months.

Sunshine

The percent of possible sunshine ranges from about 35 percent in December and January to nearly 80 percent in July and August.

REGIONAL GEOLOGY

During the Mesozoic Era 62 million years ago, a mass of molten magma forced its way toward the Earth's surface. As the molten cooled it formed a huge granitic mass measuring 200 miles north to south and 100 miles east to west. Over a period of several million years, tremendous pressure forced this monolithic monster to as much as 8,500 feet above the surrounding countryside. Valley County sits squarely on this geologic wonder that is referred to by geologists as the Idaho Batholith. The word batholith is formed from two

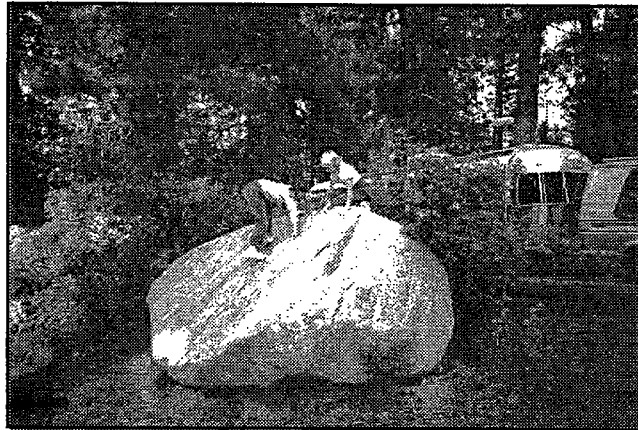
Greek words, bathos (deep) and lithos (stone).

During the Miocene Era, approximately 17 million years ago, lava was once again forced to the surface. This material was thrust up against the west side of the batholith, cooled, and became the basaltic mass now known as West Mountain and Red Ridge. Geologists refer to this area as the eastern margin of the Seven Devils section of the Columbian Plateau. As this plateau was being formed, lava also was squeezed up through cracks and fissures (faults) that had formed in the batholith. The finger-like peninsula of Ponderosa State Park is an example of such a basaltic outcropping perched upon a granite base.

During Pliocene time the earth experienced massive shifting and upheaval. Over a period of millions of years, a giant block fault extending from Payette Lake to Round Valley and West Mountain to East Mountain dropped to a level 7,500 feet below the mountain peaks. During the eons that followed, 4,000 feet of sediment filled this trough until it reached its present elevation.

Geologists have evidence that this fault, now referred to as the Long Valley fault, has produced many tremors over the past 2,000 years. The most serious earthquake occurred in 1937; the most recent was Cascade's November, 1977, trembler that registered 4.5 on the Richter Scale.

During Pleistocene times 15,000 years ago, two valley glaciers modified the Long Valley block fault. The Lick



*Children play
on glacier-
deposited
granite
"Erratic" in
campground*

Creek Summit glacier originated at the summit and headed down the North Fork of Lake Fork Creek. It smoothed and scoured the steep walls of Slick Rock, pushed its way through the gorge, scooped out Little Payette Lake, and then migrated southward down Long Valley. The second glacier formed above Little Payette Lake, moved southward down the North Fork of the Payette River, and gouged out Payette Lake.

Glacial features like hanging valleys, horns, cirques, moraines, and "erratics" or ice transported granite boulders remain as silent testimony to the frozen force that put the finishing touches to the topography we see today.

FISH AND WILDLIFE

Nearly all streams, lakes and reservoirs in the area provide fish habitat. Game fish include cutthroat, lake, rainbow, brook and kamloops trout, smallmouth bass, whitefish and kokanee salmon.

Wildlife includes many nongame birds and mammals, like woodpeckers and squirrels. Larger nongame birds include the great blue heron, osprey, bald eagle, great gray owl and sandhill crane. Game birds include Canada geese, ducks and three species of forest grouse.

Fur bearers and big game living in the area include beaver, river otter, whitetail and mule deer, elk, mountain lion and black bear. Moose occasionally visit the North Beach Unit and Lily Marsh on the peninsula as they roam the area which is primarily a summer and fall range for big game. Wintering may occur on lands southeast of McCall, however, heavy snowfall forces the animals to abandon the area for the lower feeding grounds around the Gold Fork River. A listing of all wildlife species observed in the park is presented in Appendix F.

ISSUES OF SPECIAL CONCERN

Endangered and Threatened Species

A national concern for the survival of plant species first emerged with the passage of the Endangered Species Act of 1973, which provides for the protection of endangered and threatened plant and animal species. Currently, there are no known plants in Valley County that are listed as endangered or threatened. There are three plants listed as "plants of concern" which grow in the Valley County area: *Douglasia idahoensis*, *Castilleja oresbia* and

Tolfieldia glutinosa. These plant species have not been observed in either unit of the park.

The U.S. Fish and Wildlife Service (USFWS) has provided information that the gray wolf, *Canis lupus*, may occur within the North Beach Unit environs. This species is federally categorized as endangered. The northern goshawk, *Accipiter gentilis*, which may also live in the area, is identified as a candidate species. The bald eagle, *Haliaeetus leucocephalus*, can be found along the North Fork of the Payette River and is listed as an endangered species. The great grey owl, *Strix nebulosa*, also lives in the area and is listed on the state list of "species of special concern." Sockeye salmon, *Oncorhynchus nerka*, is listed by the Idaho Department of Fish and Game as a threatened and endangered wildlife species.

Insect Infestation

A series of warm winters and low moisture years, in conjunction with periodic infestations of spruce budworm have provided ideal conditions for a potentially disastrous infestation of pine bark beetles. Beetles normally breed in over-mature, slow-growing, diseased trees and in trees stressed by drought or weakened by lightning. During epidemics, beetles kill healthy trees too.

Inventory data indicates that since 1920, approximately 30 percent of the ponderosa pine in the park has been affected by the Douglas fir beetle and 20 percent has been destroyed. The Mountain pine beetle has destroyed 38

P I N E B A R K B E E T L E S

The first evidence that a tree has been attacked by a pine bark beetle is the appearance of holes about the size of a match head. The red boring dust drops from the holes and falls into the cracks of the bark. Sometimes this dust, or frass, can be found on the ground beneath the tree.

In defense, the tree will try to wash the beetle from the hole by plugging the hole with pitch. If the beetle is successful, it will tunnel into the vital layer of growing tissue to eat, tunnel and lay its eggs, which are about the size of a rice grain. The life cycle from that point is eggs, larvae, pupae and adult. The adult then emerges through the bark, leaving a hole that looks like a buckshot hole. A blue-stain fungus is introduced by the beetle into the living part of the tree.

As adult beetles and larvae feed in this vital living layer, or phloem, the blue-stain fungus spreads rapidly. It chokes and clogs the water transport vessels in the sap wood, which stops the natural flow of pitch.

Bark beetles exhibit a remarkable coordination in their flying populations. They tightly synchronize their mass attacks, overwhelming the tree's defenses by sheer numbers. Beetles respond first to odor from the resin in the trees and then to chemical signals from the first colonists. Thousands of beetles may infest the same tree simultaneously.

Three beetles are of concern in the park. Douglas fir beetle *Dendroctonus pseudosugae*, western pine beetle

Dendroctonus brevicornis and pine engraver beetle, *Ips pini*. The Douglas fir beetle and the Western pine beetle attack the lower portion of the tree trunk, while the pine engraver beetle concentrates on the upper branches of the trees. Western pine beetle are found in the ponderosa pine and the Douglas fir Beetle in the Douglas fir.

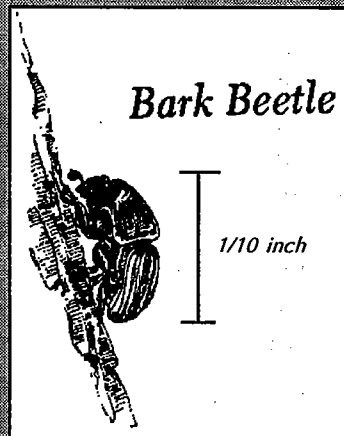
Birds, like the woodpecker, and predatory and parasitic insects help control the numbers of bark beetles. However, during epidemics they can do little to aide the trees.

When there is abundant moisture, the trees can produce enough sap to plug the beetle holes, protecting themselves against massive destruction. Forest fires kill the beetle grubs in the bark. Several weeks of sub-zero temperatures

help keep beetle numbers in control by freezing the insects and larvae. Mild, dry winters, the absence of fire and low moisture combine to create an ideal condition for a beetle epidemic.

Ponderosa State Park staff members are taking some unusual measures to protect these trees. Beetle repellent bubbles and funnel traps have been placed in the park. Severely attacked and dying trees are removed carefully. This takes place during late winter and early spring in order to preserve the integrity of the surroundings.

Park staff believe these efforts to prolong the life of the trees are valid even though the methods are expensive.



percent of ponderosa pine and has destroyed 48 percent of the lodgepole pine. Nearly 42 percent of all Douglas fir has been affected by the Douglas fir beetle and 25 percent has been destroyed.

Fire Danger

During most summers, there is a high fire danger at Ponderosa State Park. Analysis of tree rings indicates that prior to human intervention, fire swept the peninsula about every 20 years. In contrast, records indicate that there has not been a major fire on the peninsula since the 1930s.

The absence of fire has resulted in the accumulation of a thick layer of flammable 'duff' material on the ground. In some areas this is over 12 inches thick. On top of this is a dense thicket of woody shrubs and trees. Due to insect kill and disease, there are also numerous dead trees.

Many living trees have an accumulation of unshed dead branches extending up the length of their trunks. Under hot, dry conditions, this enormous fuel loading presents an extreme fire hazard. The danger is further compounded by the many ignition hazards within the park.

The most serious of these hazards are: camper/picnic fires in developed areas; unauthorized fires in undeveloped areas; careless smoking; and lightning.

CULTURAL RESOURCES

Historic and Archaeological Sites

There is currently no building, district, site, structure or object in either unit of Ponderosa State Park that is listed on the National Register of Historic Places. Although a formal, systematic field inventory has not been conducted, IDPR is not currently aware of the existence of any such building, district, site, structure or object that would be eligible for nomination to the Register.

There are, however, documented prehistoric archaeological sites along the North Fork of the Payette River, north of the North Beach Unit, south of McCall and in the Cascade Reservoir area. Artifacts identified as flakes, biface point fragments, a Rose Spring/Piquin point, a basalt lanceolate knife, a Clovis-style and several Windust Phase projectile points have been discovered in these areas. These discoveries suggest that there is a high degree of probability that other significant, undiscovered prehistoric resources may be present in the area.

Peninsula Unit



Aerial oblique photograph of The Peninsula, looking north. Photo courtesy of Chet Bowers, Aero-Photo.

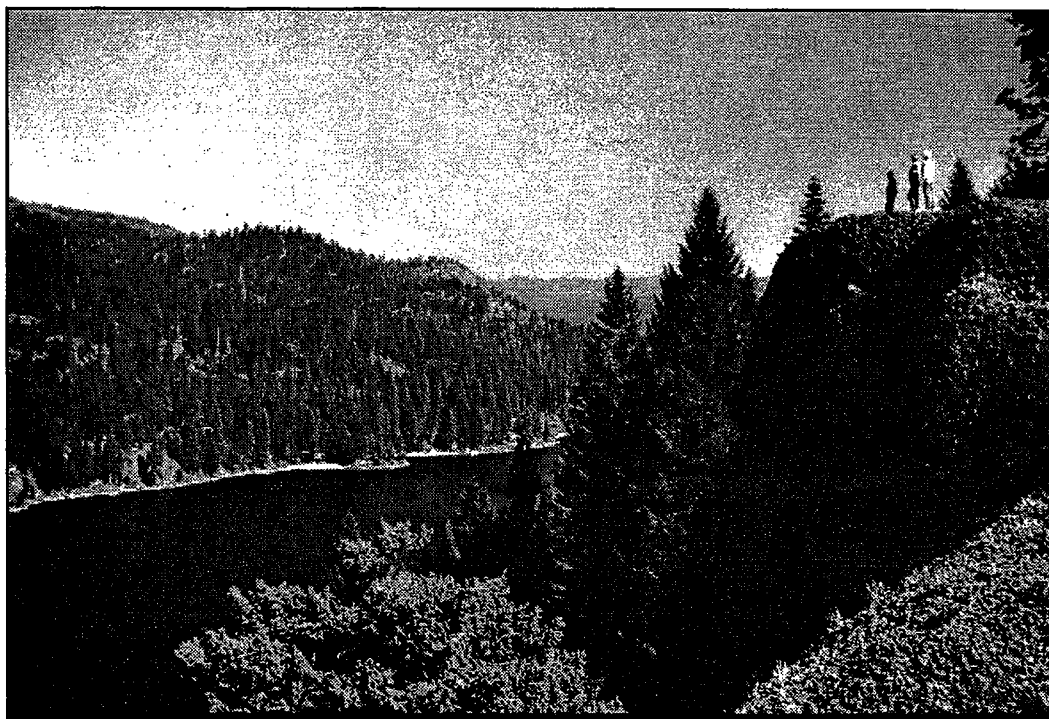
Ponderosa - An Extraordinary Idaho State Park

*by Rosemary Hardin,
former IDPR Information Specialist*

There is nothing ordinary about Ponderosa State Park in Central Idaho, just outside the resort town of McCall on breathtaking Payette Lake. From the towering ponderosa pines and Douglas firs to the eerie, silent other-world of Lily Marsh, Ponderosa State Park is as whisper soft as it is magnificent and bold.

The 800-plus acres of Ponderosa State Park cover an entire peninsula that juts into Payette Lake creating Tamarack

Bay to the northwest. From the Point, the highest spot on the peninsula, you can see as far as the ring of snow-capped mountain ranges will allow. At sunrise and sunset the sky, the vista and the lake's water can turn a shimmering jewel-like amber or a subtle salmon pink. These rich color changes make for spectacular photographs, some great memories and maybe even a little romance. The road to the Point is paved, gravel, and dirt but is well-maintained, so taking a car or even a large motorhome to the top is fairly easy to do. If you decide to walk or ride your mountain bike, be prepared for a steady climb in elevation. The Point is 300 feet higher than the



rest of the park, over a mile high.

Basaltic cliffs were created by volcanic activity prior to the last ice age 15,000 years ago when Payette Lake and most of the surrounding lakes were formed. Geologists believe the peninsula extended across the lake to the west side but was cut off by an advancing glacier.

The Point is just one attraction at Ponderosa State Park; there are many other natural wonders on the huge peninsula, like Meadow Marsh and its sister, Lily Marsh. Lily Marsh is right along the road to the Point, and easy walking trails circle it.

Lily Marsh is tranquil. The moist, dark-brown soil offers little resistance and makes no sound as you walk the trails. Once you cross over the bridge that spans a narrow portion of the

marsh, you're immediately in thick, lush forest. The humidity of the area creates a musky smell and gives life to a variety of snakes and amphibians - frogs, toads and garter snakes - thick underbrush, delicate flowers, lots of cattails, plant species like horsetail, and a rare plant community of Englemann spruce.

At the same time Payette Lake was formed by glaciers, 43-acre Lily Marsh started out as a lake, too, formed by the same glacial activity. Now the lake is filling in with organic and inorganic materials and is slowly turning into a mountain meadow, which is a natural part of lake evolution. The marsh is still fed fresh water by springs and a small stream, and a small outlet stream runs into Payette Lake.

The marsh is completely sur-

rounded by a channel varying in depth from three to five feet and filled with yellow pond lilies, which create round, green table tops at the murky water's surface.

The marsh is home to many animals including beaver, deer, otter, and muskrats. Waterfowl which make their homes or find food in Lily Marsh include mallards, mergansers, wood ducks, ring-necked ducks, snipes, osprey, hawks, and even loons.

Lily Marsh and 262 acres of the surrounding forest were designated a Natural Area by the Idaho Park and Recreation Board in 1982, so this unique ecological site will be protected for everyone to study and enjoy.

After exploring Lily Marsh, proceed to a secluded beach less than a quarter-mile away at either Payette Lake or Tamarack Bay for a picnic lunch; watch the sailboats, motorboats, canoeists, and water skiers skim the water's surface, or just listen to the rhythm of the lapping water. Pay close attention and you could see an elusive red fox or hear the haunting cry of a great horned owl.

The ponderosa pine and Douglas fir trees share the soil with many other evergreen and deciduous trees, like white pine, lodge pole pine, spruce, quaking aspen and tamarack, a unique deciduous pine. Between October and November the tamaracks' needles turn golden yellow and glow like candlelight against a dark green background.

Shrubs include mountain ash, alder, honeysuckle, buffalo berry, thimbleberry, and all three varieties of huckleberry. The best area to examine some of

the 326 plant species which grow in Ponderosa State Park is along the botanical trail, constructed by the Ponderosa Natural History Association. The trail is divided into six distinctive regions, each of which supports a different plant habitat. Everything from yarrow and wild geranium to mushrooms and Oregon grape grow along the trail. At the visitor center, pick up a trail guide and list of the plants which grow along the trail.

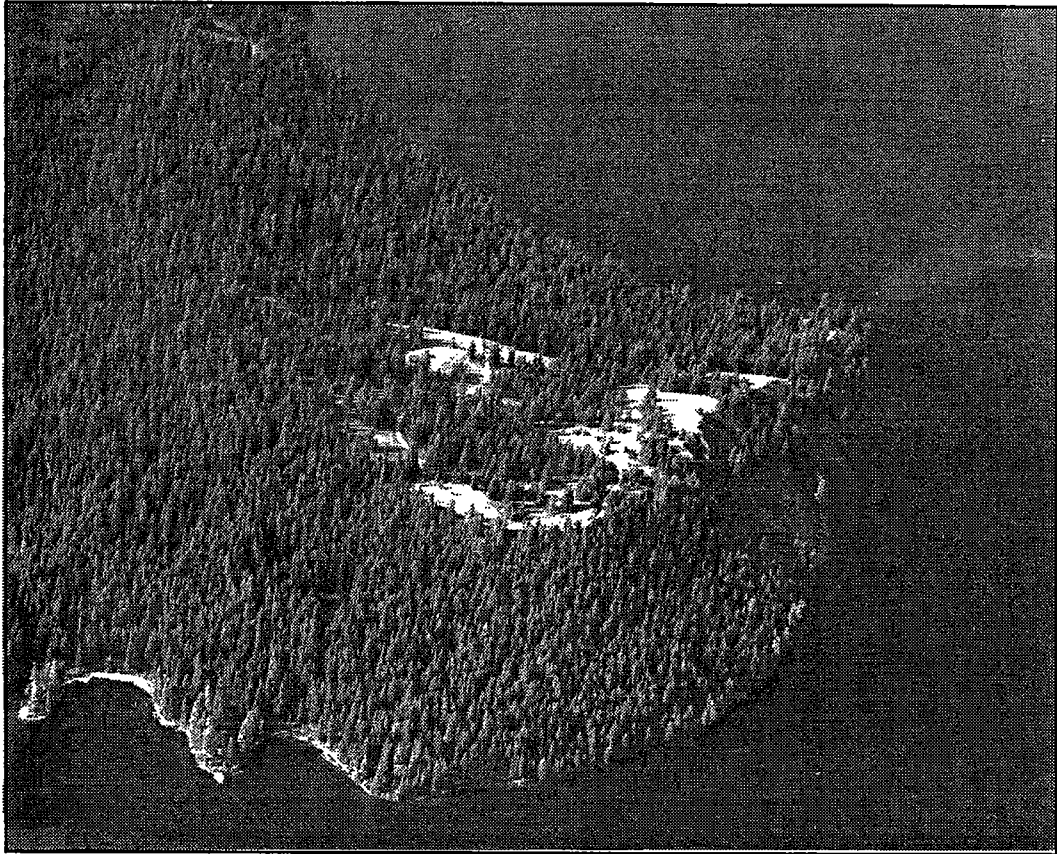
On summer weekend evenings, Ponderosa State Park presents campfire programs which are held at the rustic campground amphitheater. These programs include guest speakers and slide shows about Idaho's natural wonders. Guided morning nature walks are a popular activity, and guests enjoy riding their bikes along the new mountain bike trail - Fox Run Trail - and also on the wide, well-maintained scenic park roads.

At its deepest Payette Lake measures 304 feet, and the temperature varies between cold and reasonably warm. For people interested in fishing the lake supports lake and rainbow trout, kokanee salmon, and perch.

After a hard day of fishing, let yourself relax in the cool shelter and



*Aerial oblique photo
of "the Point,"
looking southwest.
Photo courtesy of
Chet Bowers, Aero-
photo.*



shade of the towering pines. The oldest trees in the park, according to Park Interpreter Joan Lee, are in the camping area. Most of the ponderosa are 100 feet tall but can get as tall as 150 feet. The short growing season in Central Idaho inhibits the tallest growth. Ponderosa stop growing up when they get to be about 200 years old and start growing out. This process, known as "crowning out," changes the shape of the tree from straight and spindly to round and full. The oldest trees in the park are about 500 years old.

For kids, there is the Junior Ranger Program, where they learn to identify plants and animals through games, learn the significance of animal

habitat, explore deserted nests, and dissect sterilized owl pellets.

The daytime mountain air is warm but the breeze off Payette Lake can be brisk, and the evenings cool down rapidly to sweater-and-long-pants temperatures.

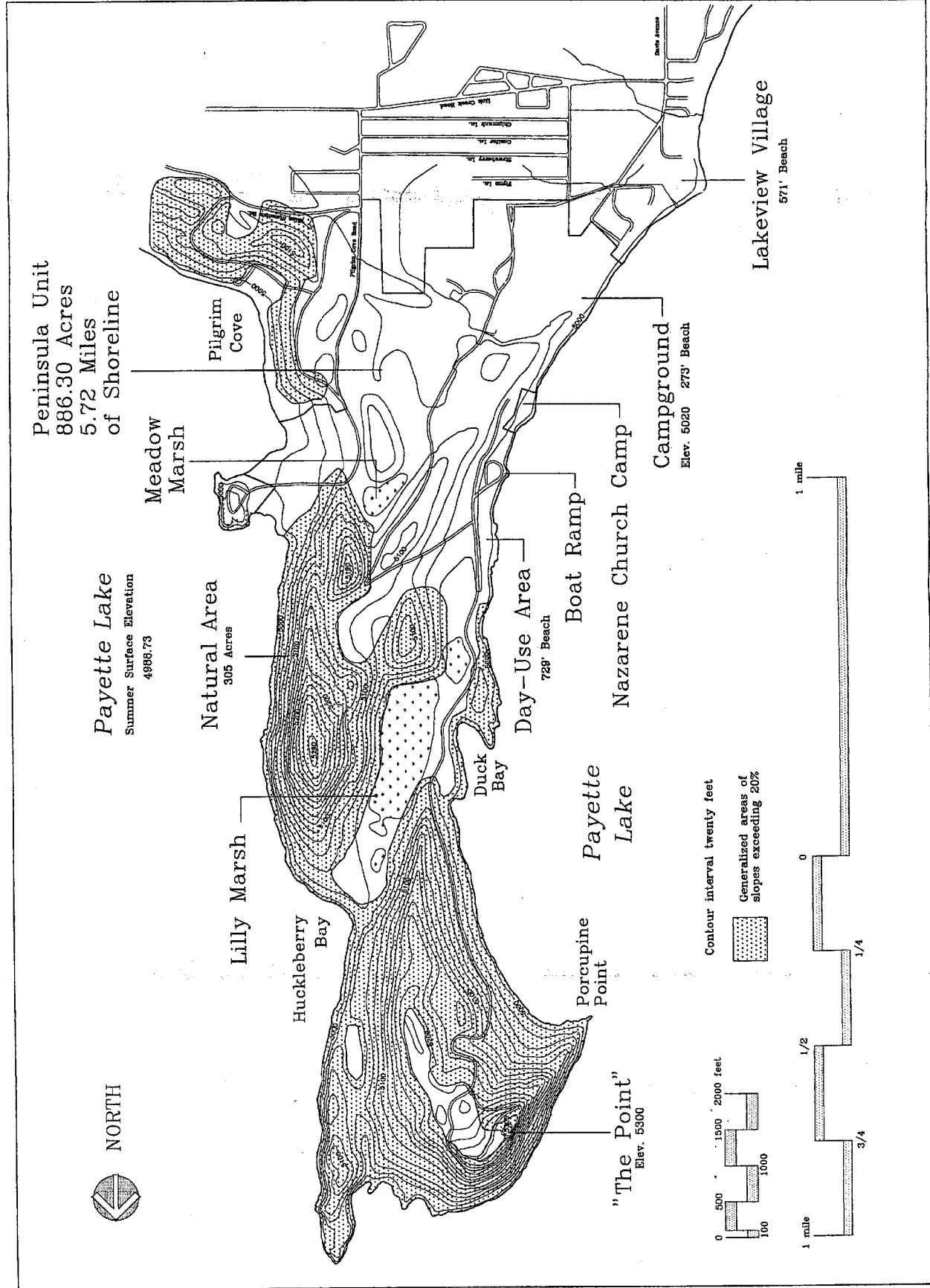
The magnificent vistas, gentle ponderosa pines, the blue waters of Payette Lake, and Columbian ground squirrels playing in your campsite when you're not looking are all part of the natural welcoming committee at Ponderosa. So whether it's quiet solitude, an exhilarating trip on water skis, a family reunion, or great fishing that draws you to Ponderosa State Park, it's diverse enough to offer something for almost everyone.



PENINSULA UNIT PHYSIOGRAPHY



Map 3.1



PENINSULA UNIT SOIL SUITABILITY MATRIX

Table 3.1

DEGREE OF LIMITATION L=little M=moderate S=severe													
POTENTIAL FOR OCCURANCE N=none R=rare L=little M=moderate U=unrated													
DEGREE OF SUITABILITY G=good F=fair P=poor													
MAP #	SOIL NAME	buildings	roads and streets	absorption fields	risk of corrosion	potential frost action	flooding frequency	erosion hazard	campgrounds	picnic areas	paths & trails	intensive recreation	extensive recreation
14/15	DEMAST LOAM	S	S	S	M	M	N	M	S	S	M	P	G
29	KANGAS FINE SANDY LOAM	S	M	M	M	L	R	U	S	M	M	P	G
31	McCALL COMPLEX	S	S	S	H	M	N	M	S	S	S	P	G
45	QUARTZBURG VARIANT LOAM	S	S	S	M	L	N	S	S	S	S	P	G
58	TICA VERY COBBLY LOAM	S	S	S	H	M	N	M	S	S	S	P	G

PENINSULA UNIT PHYSIOGRAPHY

The largest unit of Ponderosa State Park is located on a peninsula that projects northward into Payette Lake, dividing it into two basins. The peninsula is over 2-1/2 miles long on its north-south axis and averages a half mile across. The park occupies 886.30 acres on the peninsula.

The campground, located at the southwestern end of the peninsula, is 5,020 above sea level. A series of north-south ridges originate at the campground and gradually increase in height as they proceed northward to the peninsula tip. These ridges offer primarily eastern and western aspects and culminate at the Point, the highest feature within Ponderosa State Park.

Before its designation as a park, the physiography of the peninsula - more

than any human conservation ethic, was responsible for its preservation. Slopes in excess of 10 percent preclude development over much of the peninsula. Although the unit boasts 5.72 miles of shoreline, its steep slopes and basaltic nature has limited the amount of sandy swimming beach developable for public use to 1,000 feet - just 3.3 percent of the unit's total water frontage.

Peninsula Soils

The soils are derived from both basaltic and granitic parent materials and have been influenced by glacial activities. As a result, they vary considerably in terms of physical and chemical properties and the limitations to management activities that result.

The following general descriptions of the soil series that occur on the peninsula have been obtained from the *Soil Survey of Valley Area, Idaho*, prepared by the Soil Conservation Service. The

range and extent of the various soil types are depicted on the accompanying Soils Inventory Map, Map 3.2.

Demast Series (map unit 14-15) - The Demast series consists of fine, loamy, mixed Argic Pachic Cryoborolls derived from basaltic parent materials. These soils are deep, well drained, and have formed in colluvium (soil material and/or rock material moved and deposited by gravity at the base of steep slopes) and residuum (unconsolidated, weathered or partly weathered mineral material that accumulates over disintegrated rock). The Demast series occurs on foothills and mountains with slopes ranging from 15 percent to 60 percent.

Kangas Series (map unit 29) - The Kangas series consists of sandy, mixed Entic Cryumbrepts derived from granitic parent materials. These soils are very deep and drained, and have formed in glacial outwash (gravel, sand and silt commonly stratified and deposited by meltwater as it flows from glacial ice). The Kangas series occurs on outwash plains and terraces with slopes ranging from zero to 3 percent.

McCall Series (map unit 31) - The McCall series consists of loamy-skeletal, mixed Typic Cryumbrepts derived from granitic parent materials. These soils are very deep, somewhat drained and formed in moderately coarse to coarse textured glacial till (unsorted, boulders transported and deposited by glacial ice). The McCall series occurs on glacial moraines with slopes ranging from 5 percent to 50 percent.

Quartzburg Variant (map unit 45) - The Quartzburg Variant consists of

sandy-skeletal, mixed Typic Cryumbrepts derived from granitic parent materials. These soils are moderately deep (20 to 40 inches to bedrock), well drained, have rock fragment contents in excess of 35 percent and have formed in residuum of granite. The Quartzburg Variant occurs on foothills and mountains with slopes ranging from 30 percent to 60 percent.

Tica Series (map unit 58) - The Tica series consists of clayey-skeletal montmorillonitic Argic Lithic Cryoborolls. These soils are shallow (less than 20 inches to bedrock), well drained, have rock fragment contents in excess of 35 percent and have formed in residuum of basalt. The Tica series occurs on foothills and mountains with slopes ranging from 4 percent to 65 percent. The suitability of these soils for recreation development is shown on table 3.1.

UPLAND VEGETATION

There are two general categories of upland vegetation types found within Ponderosa State Park: forest and grass/shrubs. A listing of all plant species observed in the park is presented in Appendix E.

Forest

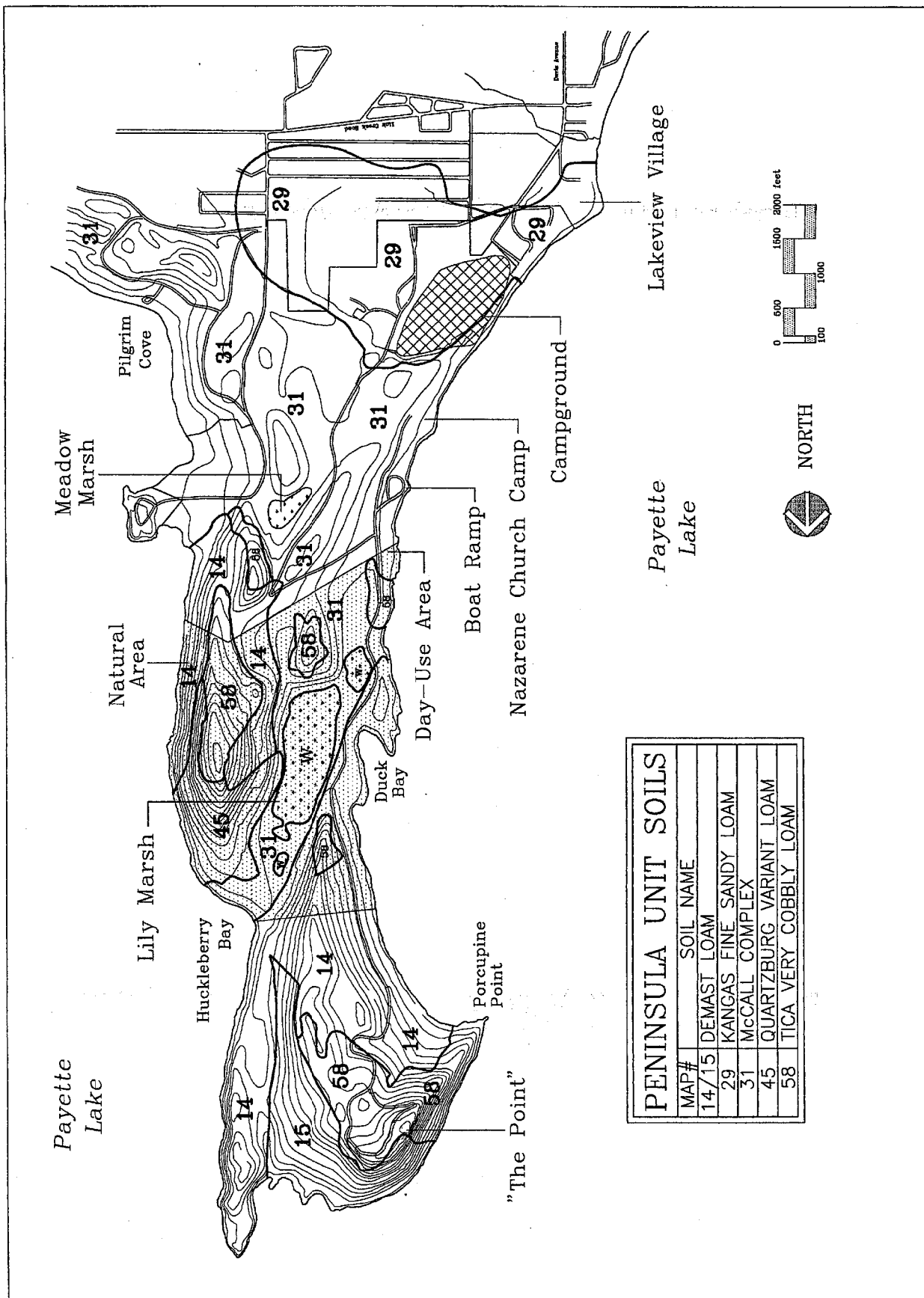
In the mountainous areas of Valley County, ponderosa pine and Douglas fir grow on the south-facing slopes. Pine reedgrass, ninebark, snowbrush ceanothus and elk sedge make up the understory. Grand fir, Douglas fir and some ponderosa pine, western larch, spruce and sub-alpine fir grow on the



PENINSULA SOILS INVENTORY



Map 3.2



THE PATRIARCH PINE

Pinus ponderosa

Ponderosa State Park was named in honor of this once-bountiful species. Records indicate that in 1920 about 7 million board feet of ponderosa pine was present in the area that is now the park. The 1986 survey indicates there are only 3.7 million board feet. Many of the remaining trees are over 400 years old and little natural regeneration is occurring.

Known also as blackjack pine, bull pine, Western yellow pine and yellow pine, it is the most widely distributed pine in North America. The species was first noted by Lewis and Clark in 1805. Ponderosa pine grows most prolifically at elevations ranging from 4,000 to 8,000 feet on benches and plateaus with southern and western aspects.

These giants have been known to grow to nearly 104 inches in diameter at breast height and may grow to 232 feet in height. In Idaho they generally range from 60 to 125 feet.

To cope with dry conditions, the trees have huge root systems and are spaced widely apart. This allows plenty of sunlight through to support grasses

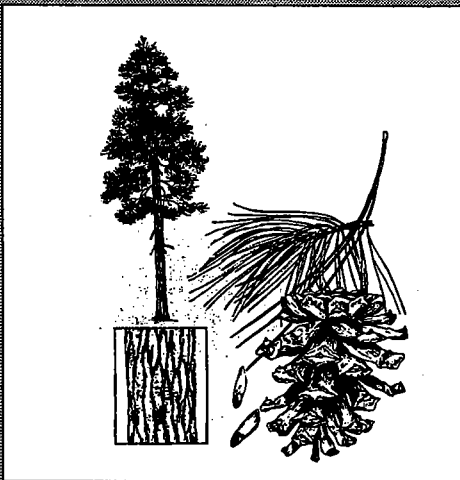


and leafy plants, making ponderosa forests good summer grazing for animals.

Young trees are so unlike older trees they were once thought to be a separate species. As the trees reach maturity at 80 to 100 years of age, the bark forms thick, scaly plates and the color changes from dark brown or gray to yellowish.

The ponderosa's cones take two years to mature and are used as food by many animals and birds. Chipmunks are great farmers of ponderosa pine seedlings, "planting" many trees in their forgotten caches of food. Squirrels, quail and grouse also enjoy the seeds.

At full maturity, about 150 years of age, they stop growing. If these trees survive lumbering, fires and insect attacks, they may get to be as old as 600 years. The oldest trees in the park may be over 500 years old. They were mere seedlings when Columbus arrived on the continent in 1492.



north-facing slopes.

The understory on the north-facing slopes varies with the density of the canopy. It includes pine reedgrass, little princes pine, western thimbleberry, heartleaf arnica, pachystima, common beargrass, elk sedge, Woods rose and snowberry.

A field reconnaissance conducted in 1986 indicates that the timber species present in the park are: ponderosa pine, Douglas fir, lodgepole pine, western larch, grand fir, Englemann spruce, cottonwood and aspen. These species were found in association with big whortle berry, snowberry, service berry, western thimbleberry, Oregon grape, chokecherry, rocky mountain whortle berry and bitterbrush.

Ponderosa park staff mapped the timber types on the peninsula; this information is shown on Map 3.3.

Fire suppression during the last 60 years has altered natural succession. There is evidence that ponderosa pine and Douglas fir, both climax species in the past, have now begun to be replaced by white fir which currently accounts for 65 percent of all regeneration in the park.

Dense growth of white fir alters the physical characteristics of soil and reduces the amount of light penetrating the overstory. This gradually eliminates the environment essential for the regeneration of ponderosa pine. The campground area has had the largest concentration of ponderosa pine. Today little or no regeneration is occurring in this area

Balds

A bald is an area in a forest that lacks its natural cover of trees. At Pon-

derosa State Park, balds are located at higher elevations in the northern and northeastern areas of the peninsula. These grassy balds are located atop basalt outcroppings where soil development is very poor. Balds are common in the forest; however, the balds at the park are unique because they are pristine, ungrazed and devoid of alien species such as cheatgrass and thistle.

Some of these areas contain a rare plant community of Engelmann spruce/common horsetail. Fire suppression has allowed ponderosa pine and Douglas fir to gradually invade these areas.

Grasses and Shrubs

Grasses and shrubs are found in the dry, "sagebrush flat" area near the existing entrance kiosk at the extreme southern boundary of the peninsula unit. This area is characterized by the presence of Idaho fescue, lupine, mountain big sagebrush and antelope bitterbrush. If the vigor of the grasses declines, sagebrush will dominate.

PENINSULA HYDROLOGY

The peninsula unit of Ponderosa State Park has 5.72 miles of shoreline on Payette Lake. There are no creeks of significance within its boundaries; Lily Marsh and Meadow Marsh comprise its only other significant surface-water resources.

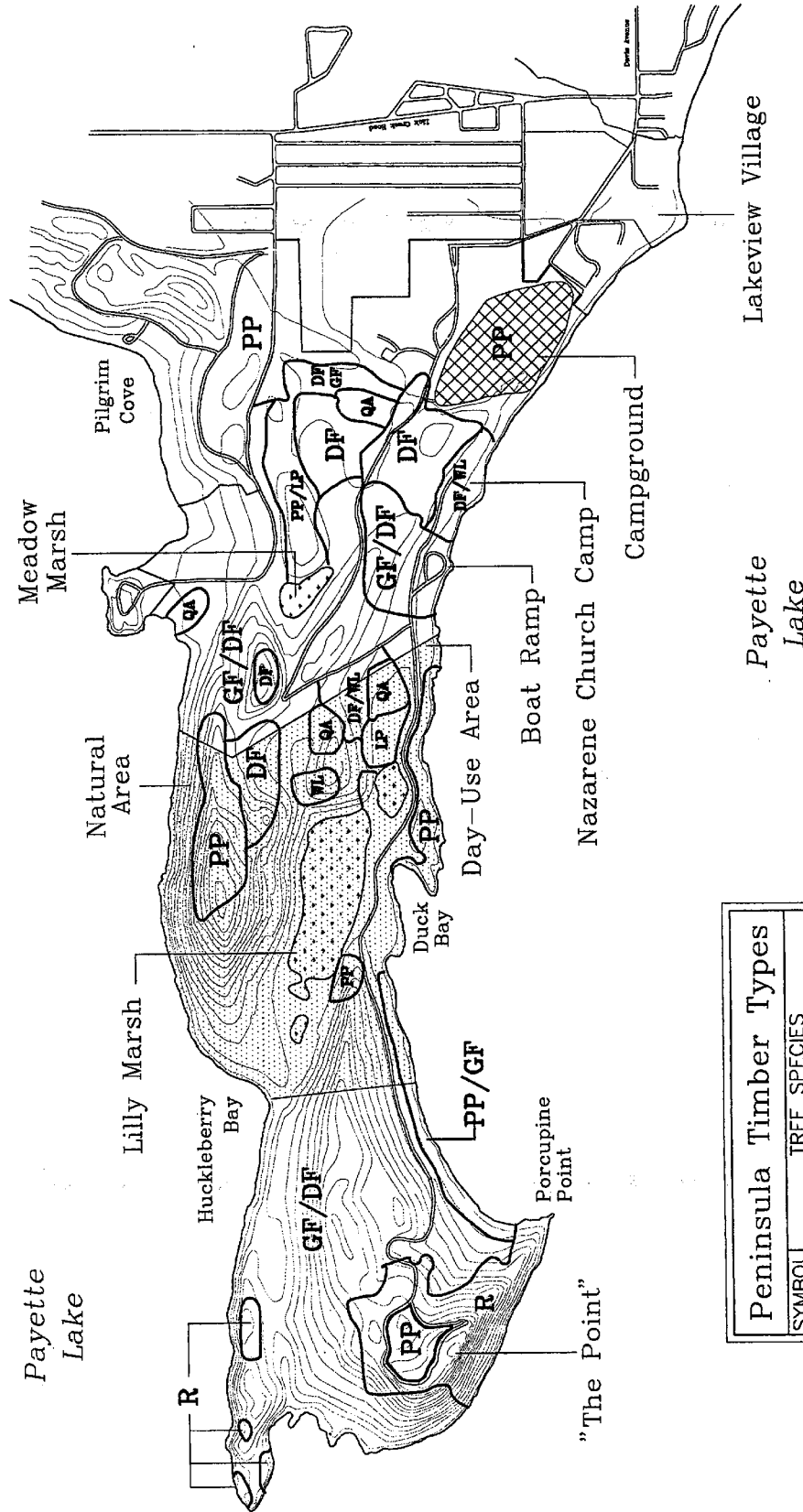
The bulk of the peninsula is underlain by a dense, fine-grained basalt with poor water-bearing characteristics. Over the years, three wells have been drilled which have been purpose-



PENINSULA UNIT TIMBER TYPING MAP



Map 3.3



Peninsula Timber Types

SYMBOL	TREE SPECIES
PP	PONDEROSA PINE
GF	GRAND FIR
W	WHITE FIR
DF	DOUGLAS FIR
SF	SUB-ALPINE FIR
QA	QUAKING ASPEN
WL	WESTERN LARCH
TP	LODGEPOLE PINE
R	ROCK OUTCROP

fully situated at the southern point of the peninsula, where the existence of sand and gravel outwash deposits offer a much more water-permeable structural feature.

Wetlands

Wetlands have increasingly been recognized as critical environmental resources and they perform many important ecological functions. They generally produce more vegetative material than other ecosystems such as grasslands, croplands and forests - even tropical rain forests.

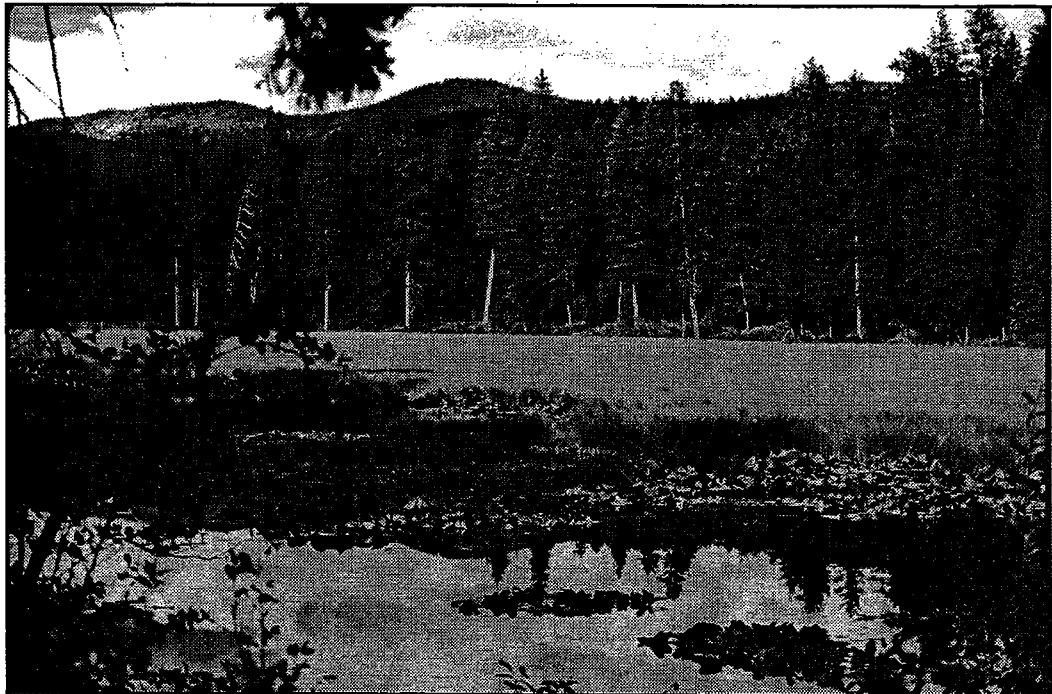
Wetlands provide essential habitat for wildlife and fisheries; flood control and shoreline stabilization; and serve as groundwater-recharge areas.

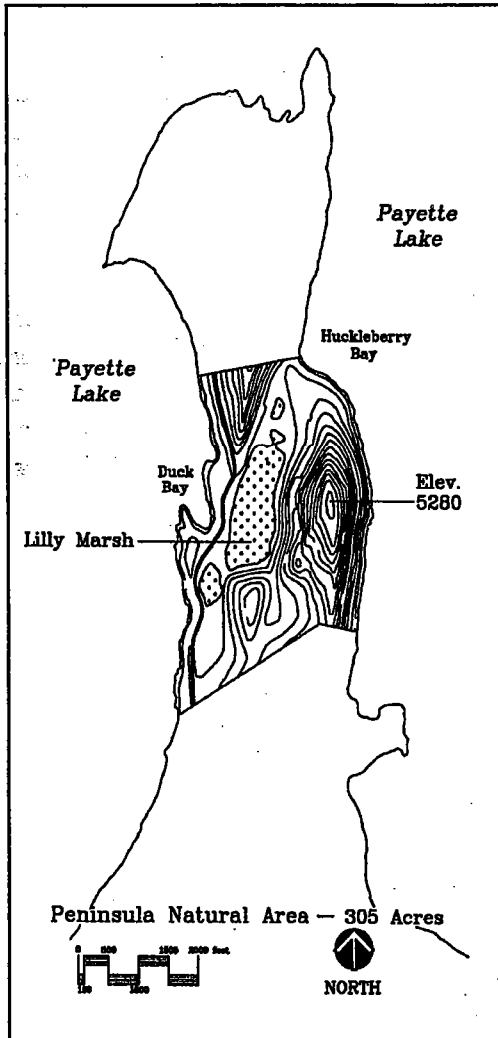
Wetlands improve water quality by settling sediments and by trapping

nitrogen and phosphorus. They perform significant biosphere maintenance functions by returning nitrogen to the atmosphere, immobilizing sulfates and by supplying methane to the ozone layer. Wetlands offer social benefits as natural areas for aesthetic, recreational and educational opportunities. Due to their importance, federal and state regulations protect wetlands from construction and other detrimental activities.

Although the Peninsula unit is primarily comprised of uplands, it contains several significant wetlands areas within its boundaries, the most notable being Lily Marsh and Meadow Marsh. In marked contrast, the North Beach unit is primarily a riparian and wetlands environment. The wetlands areas in both park units have been inventoried, classified and mapped by the U.S. Fish

*Photo of Lily Marsh
looking northeast.*





Natural area vicinity
map 3.5

and Wildlife Service (USFWS). The wetlands mapping for the peninsula unit is presented on map 3.4, the USFWS classification system, is presented in Appendix I.

Lily Marsh Natural Area

In 1974, the Idaho Natural Areas Coordinating Committee, a loose-knit

volunteer group, was organized to work toward preserving small undisturbed examples of the kinds and ranges of natural diversity found in Idaho for purposes of research, education, baseline areas and as gene pools.

Seven technical committees were established: grasslands and shrub lands, forests, alpine, aquatic, geologic, rare plants and rare animals. These groups cataloged and classified the elements of natural diversity found within the state and determined their distribution, then determined which elements were already preserved in reserved areas and those elements that needed to be preserved in additional natural areas. This information was summarized in the publication, *Research Natural Area Needs in Idaho - A First Estimate* compiled and edited by C.A. Wellner and F.D. Johnson, and published by the University of Idaho, College of Forestry, Wildlife and Range Sciences.

Board Action

In 1981, the Idaho Natural Areas Coordinating Committee successfully petitioned the Idaho Park and Recreation Board to formally designate the central portion of the Peninsula Unit as a Natural Area within the Idaho state park system. This area is shown on map 3.5. Ponderosa State Park contains a number of features the committee wanted to include in the Natural Area system.

- Ungrazed land provided an opportunity to study several plant and aquatic communities in undisturbed conditions. Undisturbed habitat types on soils derived from basalt rocks are dif-



Aerial oblique photo of Lily Marsh looking south.

ficult to find.

- Lily Marsh is unusual with its emergent and submergent vegetation.
- The natural area contains a rare plant community, Engelmann spruce/common horsetail.

The site was recommended as a Natural Area for the following reasons:

1. It represents an undisturbed marsh ecosystem of a type not common

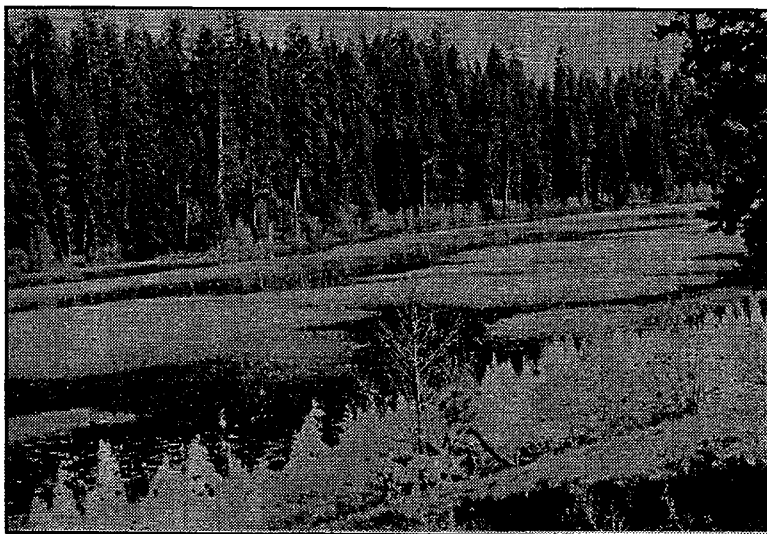


Photo of Lily Marsh looking East.

in Central Idaho;

2. The protected status of the marsh has resulted in the preservation of the natural conditions. This protection will continue to eliminate the problems usually associated with an isolated, unmanaged site;

3. The location and easy access within the state park would increase educational use of the area.

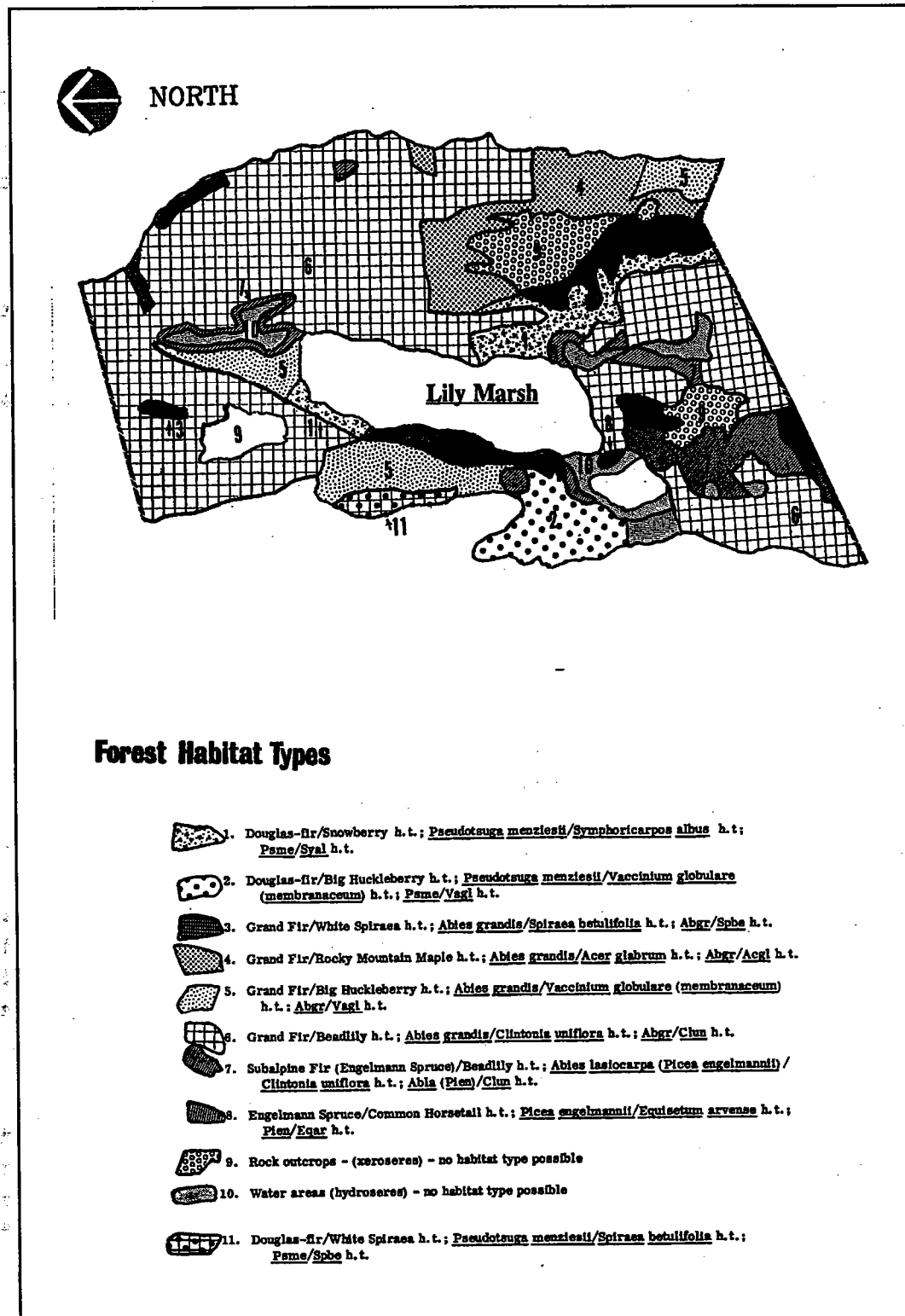
U of I Research Effort

In the summer of 1975, U of I summer-camp students, under the direction of Fred Johnson, professor of forest ecology at the University of Idaho, performed an intensive terrestrial survey and mapping project of the area.

Extent of Natural Area

The Natural Area encompasses 305 acres of the central peninsula: 235 acres of forest habitat, 27 acres of grass and/or shrub land and 43 acres of aquatic habitat. Nine forest habitat types and 13 community types were identified and mapped by the U of I researchers.

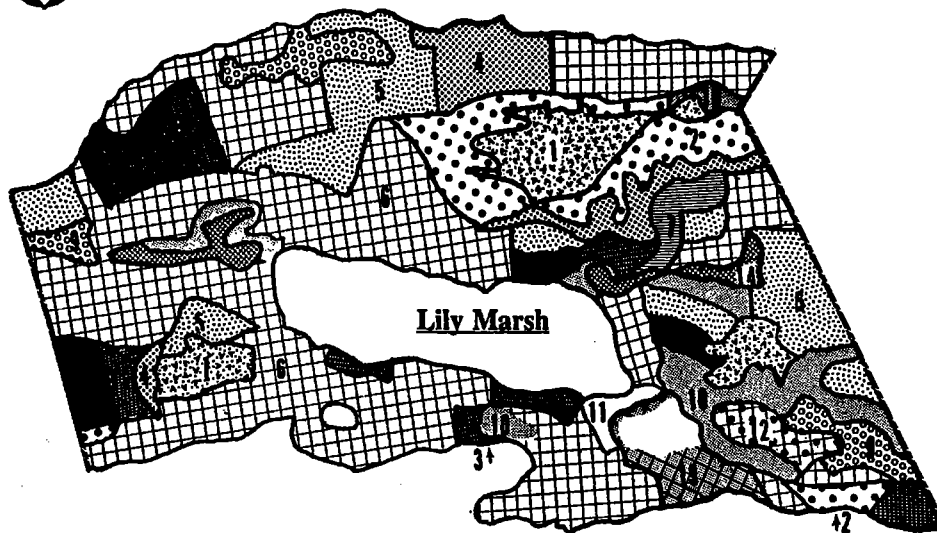
One community type is recognized in the grassland/shrub land area, bitter brush/*Eriogonum herscleoides*. This community occurs in open balds and is outstanding because no grazing has occurred. It therefore lacks alien disturbance species such as cheatgrass and thistle. The area also contains a rare plant community of Engelmann spruce/common horsetail. The habitat types and community types found within the Natural Area are outlined on maps 3.6 and 3.7.



Forest habitat map 3.6



NORTH



Vegetation Community Types

1. Bitterbrush - *Eriogonum* c.t.; *Purshia tridentata* - *Eriogonum heracleoides* c.t.;
Putr - *Erbe* c.t.
2. Mixed Forest/Bitterbrush c.t.; Mixed Forest/*Purshia tridentata* c.t.; MF/*Putr* c.t.
3. Douglas-fir/White Spiraea c.t.; *Pseudotsuga menziesii*/Spiraea *betulifolia* c.t.;
Psme/Spbe c.t.
4. Mixed Forest/White Spiraea c.t.; Mixed Forest/*Spiraea betulifolia* c.t.; MF/Spbe c.t.
5. Grand Fir/Utah Honeysuckle c.t.; *Abies grandis*/*Lonicera utahensis* c.t.; Abgr/Lout c.t.
6. Mixed Forest/Utah Honeysuckle c.t.; Mixed Forest/*Lonicera utahensis* c.t.;
MF/Lout c.t.
7. Western Larch/Utah Honeysuckle c.t.; *Larix occidentalis*/*Lonicera utahensis* c.t.;
Lacc/Lout c.t.
8. Grand Fir/Beadlily c.t.; *Abies grandis*/*Clintonia uniflora* c.t.; Abgr/Chm c.t.
9. Mixed Forest/Beadlily c.t.; Mixed Forest/*Clintonia uniflora* c.t.; MF/Chm c.t.
10. Engelmann Spruce/Beadlily c.t.; *Picea engelmannii*/*Clintonia uniflora* c.t.; Pien/Chm c.t.
11. Engelmann Spruce/Scouler Willow c.t.; *Picea engelmannii*/*Salix scouleriana* c.t.;
Pien/Sasc c.t.
12. Quaking Aspen/Red-Osier Dogwood c.t.; *Populus tremuloides*/*Cornus stolonifera* c.t.;
Potre/Cost c.t.
13. Black Cottonwood/Scouler Willow c.t.; *Populus trichocarpa*/*Salix scouleriana* c.t.;
Potri/Sasc c.t.
14. Red-Osier Dogwood c.t.; *Cornus stolonifera* c.t.; Cost c.t.

Vegetation
community typing
map 3.7

Lily Marsh

The marsh can be divided into three fairly distinctive zones:

Zone 1: A peripheral canal with a maximum water depth of five feet completely encircles the marsh. The yellow pond lily, *Nuphar polysepalum*, is the dominant macrophyte in this zone and completely covers the open-water area in the summer. Other aquatic plants present in this zone include *Utricularia* sp., *Potamogeton natans* and *Typha latifoli*. Some *Sphagnum* is also present.

Zone 2: Water depth decreases toward the central portion of the marsh. A shallow water zone one to two feet in depth occupies about 60 percent of this area. Here, two species of sedge, *Carax lasiocarpa* and *C. rostrata*, are dominate, growing up to five feet tall.

Zone 3: Approximately 40 percent of the central portion consists of a sedge mat where plant growth continues on a solid mat of dead vegetation. Small pools occur within the mat which contain insect larvae, tadpoles and aquatic plants such as the broad-leaved emergent, *Menyanthes trifoliata*.

To the north and south of the main body of the marsh are smaller areas in later stages of succession. In these areas, hydrophytic shrubs and trees are encroaching on the sedge marsh. Water depths range from saturated ground to 1.5 feet of standing water. A small outlet stream with an observable flow meanders through the southern section and empties into

Payette Lake.

Water samples taken in the peripheral channel indicated low ion concentrations and slightly acidic pH conditions that typify bog-like aquatic ecosystems. Iron content was 10 times that of most Idaho waters.

The zooplankton community during June was limited to the cladoceran, *Daphnia pulex* and an immature form of the copepod, *Diatomus* sp.

Collections made in September included several species of cladocerans and an ostracod as well as one species of cyclopoid sopepod. A wide variety of aquatic insects and other invertebrates was collected from the *Nuphar* zone. Most occurred clinging to the pond lily stems suspended in the water or swimming freely in the open water. Few organisms occurred in the oxygen-deficient substrate. Odonates (dragonflies and damselflies) and the phantom midge, *Chaoborus*, predominated among the insects.

The active swimmers among the Coleoptera and Hemiptera were also abundant. Two large leech species were found. Additional species of invertebrates were collected from the pools in the sedge mats and in the outlet stream. Mosquito larvae, *Aedes* sp., were numerous in the shallow, warm pools. Tadpoles also were also abundant. Aquatic oligochaetes predominated in the outlet stream.

Mammals found in the area include beaver, muskrat, mink, otter, red fox and mule deer. Osprey nest in the Natural Area and are listed as rare by the federal government. This Natural

Area is located in the southern most range of the barred owl.

Reptiles include the common garter snake, the Western terrestrial garter snake and the rubber boa snake. Amphibians include Western toads and spotted frogs.

Lily Marsh is an undisturbed wetlands ecosystem of excellent quality for scientific study and educational purposes. Research opportunities related to vertebrate and invertebrate population dynamics and distribution, primary productivity, plant succession and water chemistry are present. The natural history of the marsh would be of interest to park visitors and school classes.

ADJACENT LAND USES

An inventory and description of



Entrance sign to Lakeview Village.

land use occurring on adjacent properties is an important component of this document. An understanding of their existing and/or potential relationship to the park is necessary to understand the evolution of the plan. The park's neighbors offer challenge and opportunity; each presents the potential for conflictive or cooperative interaction. Adjacent land uses to the Peninsula Unit of Ponderosa State Park include: Lakeview Village; Girl Scouts of America, Camp Alice Pittenger; University of Idaho, McCall field camp; Victory Cove, Nazarene church campus; and private residential properties.

Lakeview Village

Lakeview Village is 48 acres and lies within the McCall city limits. The property includes 1,380 feet of sandy beach shoreline along Payette Lake. The parcel is owned by the Idaho Department of Lands and is a part of the normal school endowment whose beneficiaries are Idaho State University and Lewis-Clark State College. The draft 1992 *IDL Land Use Plan* describes this tract as "the largest lake-front piece of land left in McCall with significant development potential."

The parcel is bisected by Davis Avenue which currently serves as the entrance to Ponderosa State Park. An 18-acre RV park lies on the west side of Davis Avenue and 30 undeveloped forested acres lie to the east. IDL assumed interim management of the RV park in 1988, when the Stanharrah Corp., relinquished the lease it held with IDL and donated the improvements to the state.

The RV park includes spaces for 86 RVs and 33 mobile homes, some of which have been on the site for 35 years. In addition to these sites, existing improvements include a furnished cabin; a six-bay garage; an office with reception area and overhead residence; a restroom/shower/laundromat facility; and two storage sheds.

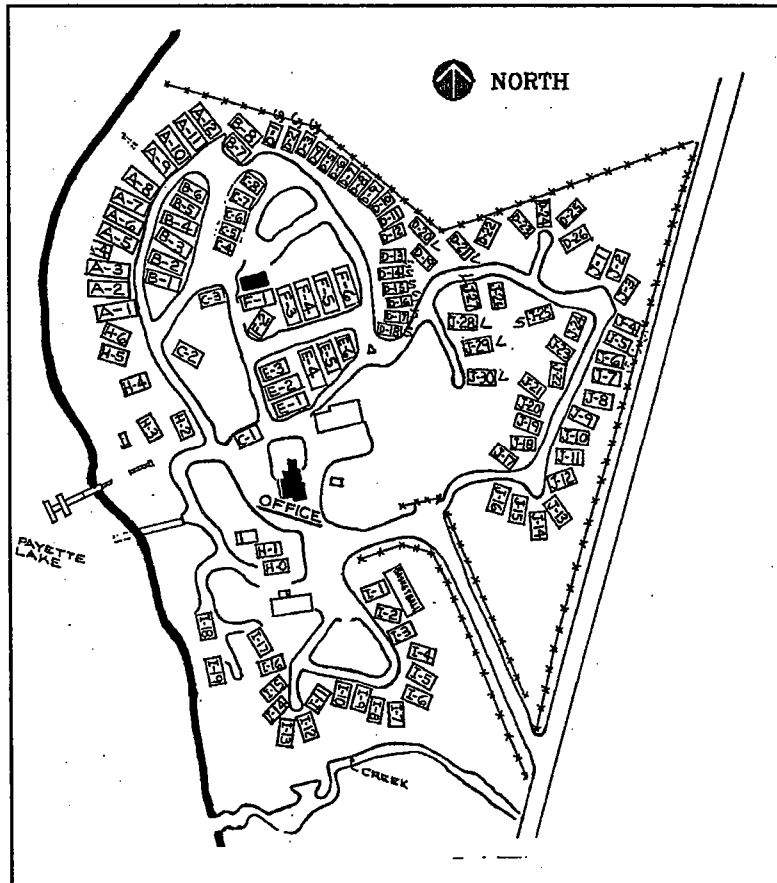
Under the current city of McCall Zoning Ordinance, the parcel is zoned urban agricultural recreational. This zoning designation identifies the mobile homes currently located on the property as a nonconforming use, a use which cannot be expanded. McCall is presently revising its comprehensive plan and zoning ordinance. The proposed ordinance would rezone the property to low-density residential. IDL has requested a commercial zoning designation for the property.

On Feb. 11, 1992, the State Land Board voted to award IDPR a one-year renegotiable lease to operate the Lakeview Village facility. Under the terms of this agreement, IDPR will manage the property through March, 1997.

Camp Alice Pittenger, Silver Sage Girl Scout Council

In 1940 Dr. Alice Pittenger purchased the 9.4 acre parcel of normal school endowment land, known as Crown Point on the shores of Payette Lake, and donated it to Silver Sage Girl Scout Council. Dr. Pittenger was a member of the Girl Scout Council and knew the council had been looking for a camp site.

No buildings were erected but tent



Existing site layout, Lakeview Village, map 3.8.

platforms for sleeping, dining, and cooking were constructed. A well was dug and a hand pump installed. Camp was held on this site in 1940, 1941, and 1942. But because of World War II and the amount of work needed to develop the camp, the Girl Scouts rented another site until 1948.

In 1948 arrangements were made with the State Land Department (now the Idaho Department of Lands) to lease additional land adjoining the camp. Plans for a main lodge and other buildings were drawn up. The lodge was not complete even though several weeks of



Sketch of U of I Field Campus, courtesy of U of I.

and alpine ecological systems--all within a twenty mile radius.

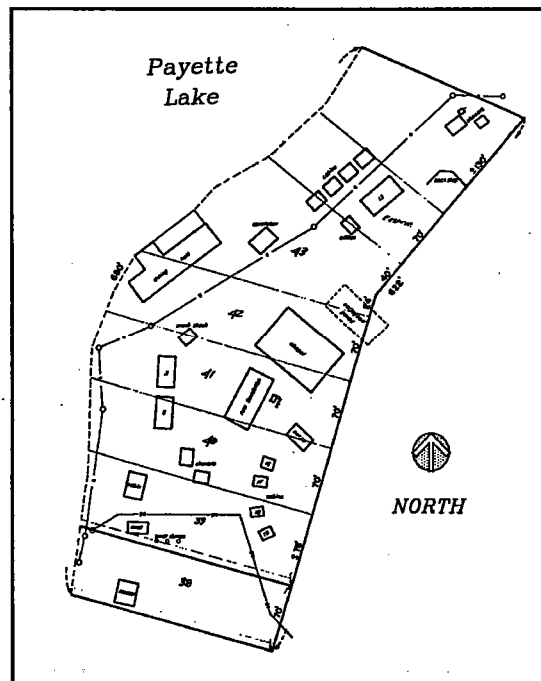
Since 1986, the campus met the challenge of increasing lease fees with better planning and more diverse programming. Programs now include accredited academic programs, research, outreach, conferences, meetings, and retreats. Since 1990, the field campus has taken a leading role as a regional center for the performing arts by hosting annual three-day music festivals which attract visitors from across the country.

The 11.07 acre campus includes 600 feet of Payette Lake frontage. Facilities include seven rustic dorm cabins, two administrative cabins a cook's cabin, one lodge-type kitchen/dining hall, several out-buildings, one central classroom/office building, and a large outdoor stage area. Facilities can accommodate groups of about 60. A site plan is depicted on map 3.9.

Nazarene Church Camp, Victory Cove

In 1929, the Idaho Department of Lands leased this endowment land to the Idaho-Oregon District Church of the Nazarene for the establishment of a summer camp.

The parcel is described as lots 39 through 44, plus a 70-foot reserve lot for a total of 2.83 acres. The layout of



Nazarene church camp site, map 3.10.

the camp is shown in map 3.10. In 1987 it was determined that improvements had also been constructed on approximately 1.66 acres of contiguous Ponderosa State Park property. Since that time, the church has been leasing this property from IDPR.

The camp includes 680 feet of sandy beach frontage on Payette Lake, and approximately 20 structures, including a chapel, dining hall, caretaker's residence, cabins, and shower buildings. Attendance records from 1984 through 1988 indicate that over 2,000 people used the facility each camping season in those four years.

The parcel lies within the city limits of McCall and is currently zoned "F"-urban agricultural recreational. The draft 1992 IDL *Land Use Plan* states, *"The property is scheduled to be traded to the parks department, however, the value of the land and the improvements will make it difficult to negotiate a trade in the near future."*

IDL Private Residential Properties

The Idaho Department of Lands (IDL) currently leases seven private cabin sites that have frontage on Payette Lake and are contiguous to Ponderosa State Park.

One .4 acre parcel is leased to Haasch/Whitsel and lies south of and adjacent to the Nazarene Church camp. This parcel has 70 feet of lake frontage and contains one recreational residence. The other six parcels are located between the Chokecherry campground loop and the University of Idaho (U of I) Field Campus facility. At this time,

the leasees of record are: E.J. Parkinson; Henry A. Dalrymple; Don Brandt; Ernest O'Reilly; William L. Clark; and Mrs. Jim Babcock. As a group, these six lots have approximately 425 feet of frontage on Payette Lake; each lot contains one residence.

The *Payette Lakes State Forest Land Use Plan, 1992* offers to options regarding the future of these parcels: *"The first option, disposal through land exchange, is possible within twenty years. The second, which allows for a longer period of growth, would be to retain these lots to prevent further division of state ownership. This would maintain all options and provide greater recreational opportunity. Pressure for this opportunity will likely increase greatly in the future."*

Undeveloped IDL Properties

The IDL owns two undeveloped parcels of land that are sandwiched between the Chokecherry campground loop and the U of I Field Campus facility. These parcels are each two to three acres in size and both are triangular in shape. The IDL Plan states that these parcels *"need to be included in adjacent land development plans."*

The IDL owns an undeveloped 60-acre parcel on the east side of Pilgrim Cove Road. The IDL Plan states that *"These lands are currently zoned low density residential with development allowed to four units per acre. The department proposes development of these lands to the limit of existing zoning."*

IDL also owns an undeveloped

30-acre, "L-shaped" parcel that is located at the southeast corner of the Peninsula Unit. The IDPR and IDL are currently negotiating a land exchange that will acquire this parcel and one of the triangular tracts previously mentioned for Ponderosa State Park.

Adjacent Private Residential Property

Approximately seven years ago, the Idaho Department of Lands sold two of their peninsula cabin lease sites. The current owners of record are Dr. Roy Ellsworth and Wilson/Aldecoa. These two parcels are nestled between the grouping of six IDL cabin lease sites mentioned earlier. Each of these two sites has approximately 70 feet of lake frontage and one residence. Mr. Swan owns approximately 20 acres of property adjacent to the park. The parcel is contiguous to the parks southern boundary and is situated directly across Miles Standish Road and the current park entrance.

FACILITY INVENTORY AND ANALYSIS- PENINSULA UNIT

Transportation System Infrastructure

The Peninsula unit entrance is accessed via Davis Avenue and Miles Standish Road which are part of the City of McCall local street system. The park entrance road is 24 feet wide, and extends from the entrance kiosk three miles to the units primary day-use area. Here the road narrows to 18 feet, and the road surface becomes gravel.

This gravel road proceeds another two miles past the Lily Marsh to the vista point parking area and a large, looping turnaround at "the Point".

Utility System Infrastructure

Water supply - The parks potable water is supplied by two park-owned-and-operated water wells located near the park entrance. During the primary use season, water is stored in a 26,000 gallon steel above-ground storage tank situated on a knoll above the campground, directly north of campsite # 4. In the winter, this reservoir is drained, and pressure tanks located in the pump building provide adequate pressure and volume to meet the greatly reduced winter demand. The Lakeview Village facility is served by the city water system.

Sewerage Disposal - Sewer services are provided by the City of McCall within the city limits and Payette Lakes Water and Sewer District within their district boundaries. Sewer lines have been installed as far north as Camp Pittenger on the peninsulas east side, and as far north as the Nazarene Church Camp on the peninsulas west side. The parks campground restroom/shower buildings, R.V. dump station, visitor center, maintenance facilities and employee residences are served by this system. Lakeview Village is also served by this system, which currently has over 900 connections, and room for some expansion.

The city and the sewer district have a cooperative cost-share agreement and use a common sewage treat-

ment facility.

Electricity - Idaho Power Company provides electrical service to the peninsula. Currently a 7,200-volt overhead transmission line provides service to the campground and extends north as far as the Nazarene Church Camp. Underground electric service has been extended to the visitors center, the park maintenance facility, and the employee housing area.

Telephone service - General Telephone Electric (GTE) provides telephone service to the park. Public telephones are currently provided at each of the three campgrounds restroom/shower buildings and at the office/visitor center.

Issues/Opportunities/Constraints

The city water system is limited and no hookups are currently being allowed beyond the present service area. The city, which currently draws its domestic water from Payette Lake, is considering converting to a groundwater source and upgrading its system. Although domestic water currently meets health standards, fear of future surface water contamination and increasing customer demand are creating concern.

Recommendations

Any significant future park development on the peninsula should be connected to the central sewer system. Should the city upgrade its municipal water system and expand service beyond its current service area, the park should analyze the costs and benefits of connecting into it.

Entrance Kiosk

A small kiosk structure is located in a traffic island at the park entrance. The kiosk is supplied with electricity, but there is no phone or bathroom facilities for employee use. Communication is maintained with the park headquarters and field staff by radio. During the primary use season, the kiosk is staffed for the purpose of day-use fee collection. Visitors requiring assistance with campground registration and reservations are directed to the office/visitor center. The kiosk building is closed during the off-season.

Issues/Opportunities/Constraints

With the addition of Lakeview Village into the scope of park operations, day-use fees are collected at the entrance kiosk, and campground registration and reservations are being processed at two separate locations: the Lakeview Village office and the park office/visitors center. All three locations are providing similar functions, which is not cost effective.

Recommendations

When IDPR acquires long-term operation of Lakeview Village, construct an adequately sized, fully-equipped entrance station on Davis Street- prior to the entrance into the Lakeview Village site. Combine the day-use fee collection and campground registration/reservation services currently provided at the entrance kiosk, Lakeview Village office, and park office/visitor center into a single, full-service entrance station.

Visitor Center

The visitor center is a major hub of activity at the park. The 1,400 square foot structure serves as park headquarters, office space for five staff members, campground registration and reservation desk, interpretive center and focal point for special events. The building also includes two non-ADA restrooms with exterior entrances. The paved parking area serving the building provides space for approximately 20 vehicle/camp-trailer combinations.

Issues/Opportunities/Constraints

The visitor center is required to perform too many functions, hence, it serves no single function properly. During the peak use season and special events activity in the visitor center can get confusing for campers and staff alike. At these times, the paved parking area is also inadequate.

Recommendations

During the peak use season, transfer the registration and reservation function from this building to the proposed full-service entrance station on Davis Avenue. Allow the existing visitor center to function solely as park headquarters, staff office space and visitor center. Construct a new facility to serve as interpretive center, indoor amphitheater and special events center. Construct an expanded, outdoor amphitheater as an integral component of this visitor service complex.

To eliminate repetitive transport



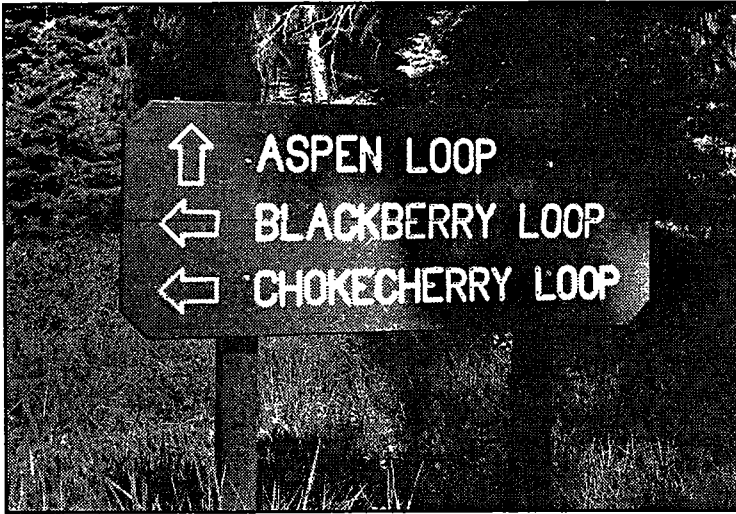
Existing park visitor center on the Peninsula.

of audio-visual (AV) equipment, focus the outdoor amphitheater seating on a rear-projection screen mounted in the exterior wall of the same AV room that serves its indoor counterpart. Analyze the parking requirements for the combined functions of this complex and expand the existing parking area as needed. Provide additional parking for visitors to campground patrons.

Peninsula Campground

(Contributed by Richard Taplin)

The Peninsula campground is made up of 170 campsites in three-loops. There is one restroom/shower building in each loop. An outdoor program area is located behind campsite #16. Nine lake side campsites overlook 273 feet of swimming beach provided exclusively for campground patrons. Thirty sites in the campground are classified as "double-sites" - four in Aspen Loop, 14 in Blackberry Loop and 12 in Chokecherry Loop. There are



Peninsula campground directional sign.

handicapped-accessible sites adjacent to each restroom/shower building. A site plan of the campground is shown on map 3.11.

Issues/Opportunities/Constraints

Group Camping - In the absence of a specifically designed and dedicated RV group camping facility, Chokecherry and Blackberry loops are being utilized as group loops. Neither loop was designed to handle large groups. Thus, the resources are beginning to show the stress of human impact and in some places have reached a point of degradation. Group campers cause more resource damage than individual or family campers. Groups move tables to adjacent sites for gatherings and group members frequently travel to and from adjacent sites, often not on established roads or trails.

Double Sites - Another resource-management problem arises from the use of our double sites. At these sites we allow two camping units-up to 16

people and four vehicles, yet these sites do not have double the carrying capacity. Most double sites have the same amount of living area as our single sites.

The space between sites does not increase with the amount of use we allow. On top of this, we have double sites next to double sites, which magnifies the opportunity for resource damage.

Trails - There are numerous trails throughout the campground; most are oriented toward the lake shore or used to get to the restroom/shower buildings. There are a large number of unofficial trails that increase the impact of pedestrian traffic on our resources. Some design flaws in existing trails are leading to erosion along the lake shore trail. There is a lot of cutting across campsites, loops and resource areas to get to the lake, trails and restroom buildings.

Picnic Tables - All picnic tables can be moved and each person has a different spot they want their table. As a result, many resources are being impacted by this practice. Groups sometimes put up to 10 tables together at one site. This has caused extensive damage to ground cover.

Tents - The campground does not have designated tent sites. Campers would like to have grass under their tents. The limited rainfall in recent years has been hard on the vegetation and the ground cover is taking a particular beating.

Restroom/Shower Buildings - These structures are not necessarily lo-

cated in the best location for public access. The established trails to the buildings do not necessarily take the shortest distance or easiest route. People cut corners and walk the straightest route to the buildings.

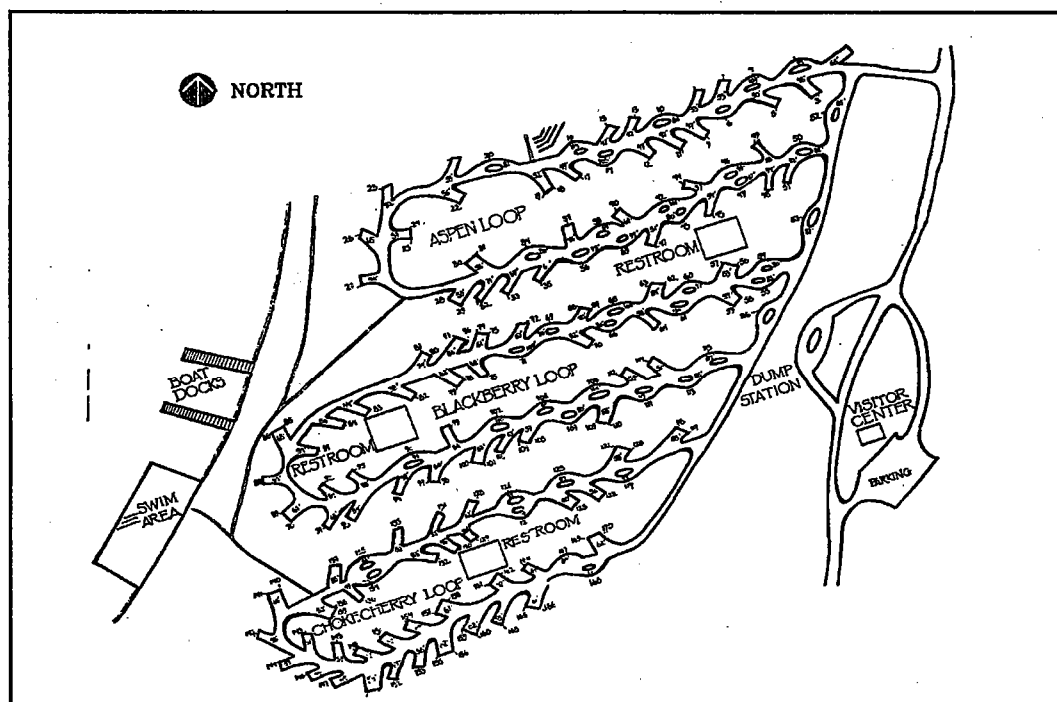
Bicycles Use - More and more people are bringing their mountain bicycles when they camp, and more and more are using the park's campground and hiking trails on which to ride. Sometimes, children get off the trails to rough road it. Extensive resource damage is resulting from improper off-trail riding.

Predictably, the effects of over 25 years of visitor impact is taking its toll on the campground's natural resources. Considering the length and intensity of visitor use, and the absence

of hardened living pads, it is surprising that the resource damage is not more extensive. The problems are manifold, as are the causes. It will require a carefully crafted approach to correct the results of many years of over use.

Recommendations

Future use of the site should provide a reduced level of family camping. Reduce overall campground density and remove lake side campsites. Shift group use to Lakeview Village. Construct a lake side commons area for camper use. Define and harden remaining camp pads and anchor picnic tables to the ground. Determine optimum locations for pedestrian trails. Clearly define and harden the routes selected.



Existing Peninsula campground layout, map 3.11.



RV Dump Station

The existing two-sided RV dump station is located between the visitor center and the campground. The facility is connected to the central sewer system. It is properly located to service campers as they exit the existing three-loop campground and has no op-

erational problems.

Issues/Opportunities/Constraints

Although no visitor has complained, pedestrians traveling from the visitor center to the campground must pass in near the dump station. The location of the current dump station is poorly suited to serve Lakeview Village patrons.

Recommendations

When IDPR secures long-term use of Lakeview Village, relocating the dump station to a site near the relocated park entrance should be considered. A dump station at this location could connect to the central sewer and would be convenient to all campers.

Campground Program Area

The existing campground program area is located on the west end of Aspen Loop, adjacent to campsites 16 and 20, approximately 200 feet from the lake. The amphitheater has a seating capacity of 100. The facility offers a wooden stage, retractable projection screen and lighting and there are electrical outlets. There is no designated vehicle parking area for the program area. The vault toilet that once served the program area is scheduled for demolition in the near future.

Issues/Opportunities/Constraints

The existing program area was intended and designed solely for campers. Popular programs now attract a much larger audience and as a result, the capacity of the current facility has

become inadequate.

Seating at the facility faces the setting sun and the vegetative buffer does not eliminate the resulting glare. Boat noise from the lake interferes with programming. Loud presentations intrude upon the campground, particularly those campsites adjacent to the facility. Program attendees arriving by automobile park haphazardly on the campground loop road which interferes with the smooth flow of RV traffic.

With the vault toilet being closed, it is a considerable hike from the program area to the Aspen or Blackberry loop restrooms. In the absence of a secure storage area on-site, program materials and equipment must transported between the visitor center and the program area.

Recommendations

Discontinue evening programs as the site. Incorporate the amphitheater into the proposed campground commons area and reuse the facility as a staging/termination point for interpretive hikes and other small-scale, day-time activities. Construct a properly sized and equipped program area as a component of the proposed visitor service complex. The location of the central complex, its large parking area, sanitary facilities and other amenities will correct the problems associated with the existing site.

Day-Use Area

The peninsula unit day-use area is located on the west side of the peninsula where the paved road ends. It is

adjacent to and south of the Lily Marsh Natural Area. The day-use area offers 729 feet of sandy, west-facing lake-front beach and a shallow, protected swimming area. The city of McCall's 300-foot no-wake zone encompasses this beach.

Other day-use facilities include a 1,260 square-foot covered picnic shelter. A two-unit, handicapped-accessible vault toilet building is situated halfway between these areas. The day-use shelter and beach are served by a paved parking area that accommodates 37 vehicles; the picnic area is served by a 10-vehicle gravel parking area. Electricity, potable water and city sewer are not available at the site.

Issues/Opportunities/Constraints

Because of its location, the vault toilet does not serve the picnic area or the boat launch well. Visitors have commented about the lack of potable water. Users move picnic tables around the area and destroy fragile ground cover. There is no defined pedestrian pathway to provide access from the parking area to the table sites.

Recommendations

Construct a two-unit vault toilet specifically to serve the shelter/beach/picnic area. Provide potable water to the day-use area. Construct hardened pads and pedestrian pathways at existing picnic sites and anchor the tables to the pads to prevent their movement.

Boat-Launch Area

The peninsula unit has only one



Existing Peninsula day-use picnic shelter.

boat launch. It is located on the west side, approximately three miles from the park entrance. The two-lane concrete ramp is considered to be the best deep-draft launch on Payette Lake.

Two, 32-foot log tie-up docks extend from abutments on each side of the ramp. In 1993, a pedestrian access that meets ADA standards was constructed at the northern set of tie-up docks. The launch is served by a paved parking area that currently accommodates 11 vehicle/boat trailer combinations. The paved entrance/exit road to the launch area is too narrow for the existing two-way traffic. Electricity, potable water and city sewer are not available. The existing privy-type toilet facility is inadequate and the two-unit vault toilet serving the day-use area is a considerable distance from the boat ramp.

Issues/Opportunities/Constraints

Provide more boat launching and vehicle parking capacity. The preferred alternative is to satisfy this need at the Lakeview Village facility.

Recommendations

Upgrade the existing facility by widening the entrance road and lengthening the parking stalls to current standards. Remove the existing sub-standard toilet facility and construct a pedestrian pathway to provide easier access to the existing vault toilet that serves the day-use area. If IDPR is unsuccessful in its effort to acquire or secure a long-term lease at Lakeview Village, double the capacity of the launch parking area and construct a two-unit vault toilet with boat dump.

Park Maintenance Area

The existing park-maintenance area is suitably located. It is near the park's primary use areas, but not so close as to present a conflicting use. The maintenance yard area straddles the gravel service road that leads to the employee residence area.

There are three major structures: a 3,600 square-foot main shop, a 1,200 square-foot auxiliary shop, and a 3,600 square-foot pole-type vehicle storage building. Secondary structures include a gas house with a covered fuel dispensing area and a firewood storage shed. Underground storage tank (UST) facilities consist of one 500-gallon diesel fuel tank and one 1,000-gallon un-

leaded gasoline tank. These tanks were installed in 1971 and 1985, respectively. The unfenced maintenance yard has sufficient gravel-surfaced areas for vehicle parking and outdoor material storage.

Issues/Opportunities/Constraints

Although no incidents have occurred, the unfenced maintenance area poses potential visitor safety and park facility/equipment security issues. Employee residence area traffic is currently funneled through the maintenance yard and the road's present location precludes the yard from being fenced. The parks UST's must be equipped with EPA-mandated corrosion protection, overfill prevention and a permanent method of leak detection by 1998.

Recommendations

The maintenance yard should be fenced and the access road to the employee residence area should be re-routed to the south of the maintenance area. The decision to remove, upgrade or convert to above-ground fuel storage tanks should be reviewed, using the criteria established in the IDPR fuel-storage program.

Employee Residence Area

The existing residence area is located on an extension of the maintenance area access road. The road terminates at a cul-d-sac designed to provide access to four employee residential sites. The residence area currently contains only one permanent structure; a

single-story, 1,200 square-foot park manager's residence. In 1992, an assistant park manager was permitted to locate an employee-owned, double-wide manufactured home in this complex.

The existing gravel-surfaced access road presents a dust problem during dry summers.

Issues/Opportunities/Constraints

The cost of housing in McCall is escalating rapidly. This is a problem for Ponderosa State Park employees because they are being priced-out of the housing market. The appearance of employee-owned housing and grounds can deteriorate and detract from the park appearance unless specific use and maintenance standards are established and enforced. The alternate site for the proposed RV group camping area borders the employee housing area. These different use areas must be adequately buffered to prevent potential conflict.

Recommendations

A permanent, dormitory-type housing unit should be constructed in the residence area for seasonal park employees. Additional permanent employee residences should be constructed. As an interim measure, permanent park employees should be offered the opportunity to locate employee-owned manufactured housing on the remaining designated residential sites. A set of covenants for these residential sites should be drafted that would define allowed uses and standards of landscape and building maintenance. These standards should be

implemented and enforced.

The road to the maintenance/employee residence areas should be paved to minimize dust. The existing vegetative buffer between the employee residence area and the alternative site for the proposed RV group camping area must be maintained and enhanced.

MOVING THE CAMPGROUND - IS IT NECESSARY?

The peninsula campground was designed and constructed at its present location in the late 1930s and early '40s when recreation planning was still in its infancy. The concept of visitor management had not yet been conceived. Park planning and management techniques have been refined since the campground was redesigned and upgraded in the mid 1960s.

In retrospect we know that constructing the peninsula campground at its current location amidst the ponderosa pines was a mistake. Visitor facilities are no longer constructed on top of the primary resource; experience has taught us that this practice hastens resource degradation.

Over the years, we have invested heavily in the current campground. Is it prudent at this time to spend considerable funding to abandon the existing campground and reconstruct a comparable facility at a new location?

Analysis

The case for campground relocation is based on the following asser-

tions:

A. Moving the campground, thereby eliminating visitor impact, will arrest or slow the demise of ponderosa pine trees in the campground; and

B. The possibility of tree failure presents a hazard to campground patrons.

The first assertion can be countered by the following realizations:

1. Statewide, all ponderosa pines are stressed because of a six-year drought and subsequent vulnerability to insect infestation.

2. The bulk of human impact on the area's ponderosa occurred during campground construction, particularly during the installation of underground utilities.

3. Ponderosa pine was at one time the climactic tree species on the peninsula. Now, due to human control of wildfire in the past 50 years, white fir accounts for 65 percent of all natural revegetation on the peninsula.

4. Many of the existing ponderosa pine are reaching their maximum *normal* life expectancy.

5. The proposed reduction of campground density, campsite definition, hardening and shifting of group use proposed by the GDP will significantly reduce visitor impact on the resource.

The second assertion can be countered through better understanding of what hazard trees are and what is being done to address the risk they present.

WHAT IS A HAZARD TREE?

*by Chris Hoosick, Ponderosa State
Park Assistant Manager*

A hazard tree has some form of structural defect, is in a peculiar location or combination of both, giving it a high possibility of falling and causing injury to the camp user or causing property damage.

Predicting tree failure is difficult because of the complex interaction between tree and environment. It can be argued that old trees are more susceptible to decay than young trees, however, all trees eventually die. Therefore, knowledge of each tree species, weather conditions and site characteristics is essential when evaluating tree hazards.

Ponderosa State Park has a hazard-tree reduction program. It is a systematic method for correcting tree hazards to prevent damage to persons or property. Inspections are performed annually by trained park employees; results are documented and corrective action is taken.

Are the large ponderosa pines more prone to failure than surrounding, younger trees? Given the tools and methods used in the hazard-tree reduction plan, this is not the case. Those trees that present a hazard are identified and removed.

Past reports and current observations provide no evidence supporting the premise that ponderosa pines have failed more frequently than any other tree species in the campground.

Trees have died over the years primarily because of lightning strikes and insect infestation.

Park staff is aware that many of the existing ponderosa pines are reaching their maximum life expectancy. We think the efforts should be focused on the reforestation of the site. Management practices currently include:

1. A hazard-tree reduction program that is performed annually.
2. 1,500 ponderosa pine and Douglas fir seedlings have been planted as the replacement for the existing overstory. This practice will be continued until the desired results are achieved.
3. Annual fertilization of the ground cover in and around campsites.
4. Chemical insecticides are used to prevent further insect-caused mortality.
5. Monthly park inspections are performed to identify any deficiencies with park facilities or grounds maintenance.

Summary

The damage to the ponderosa pines has been done. The future of the mature ponderosa is, to a large degree, beyond our ability to control. The concern for the safety of people and property has been responsibly addressed and site revegetation is underway. Perhaps a fraction of the sum that would otherwise be spent on designing and constructing a new campground could be better used to further this cause.

SCENIC RESOURCES

To properly evaluate scenic resources, three concepts are taken into consideration:

Characteristic landscape. Every landscape has an identifiable character.

Variety. Landscapes rich in variety are likely to be more appealing than

those with less variety.

Deviations. Deviations from the characteristic landscape vary in degree of intrusion or contrast.

These concepts involve the analysis of human reaction to, and perception of the visual environment. People attempt to define the degree of visual harmony or discord presented by the summation of its parts: landforms, vegetation, structures, air, water, wildlife and human activity.

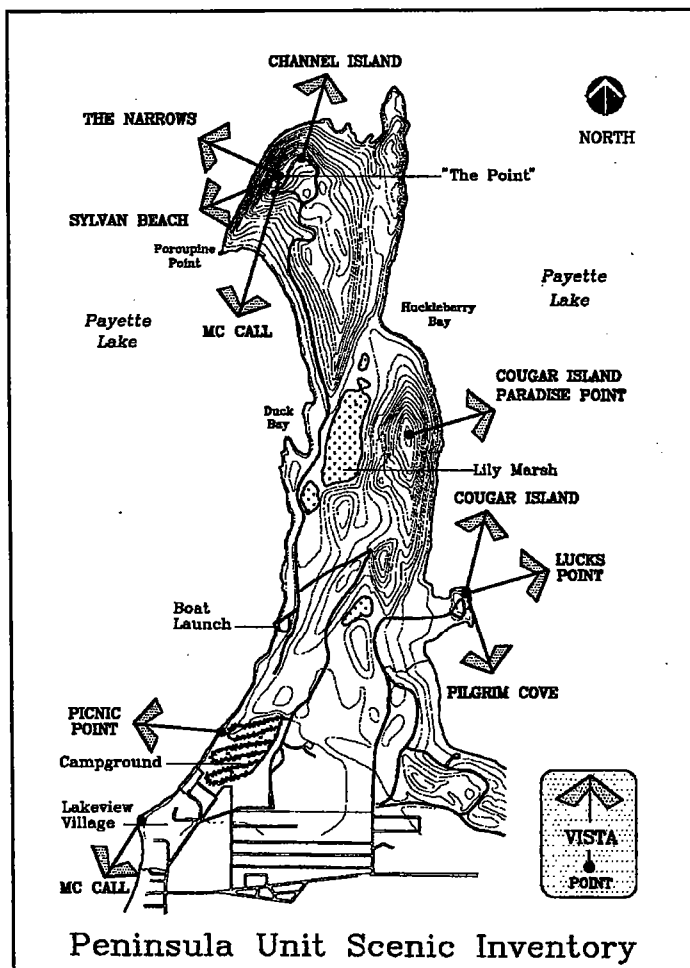
Calling the landscape a scenic resource imparts upon it an aesthetic value. From this assumption, it follows that criteria can be established to analyze the relative values of its components.

Six factors affect the landscape as it is seen, or affect the observer as s/he experiences it. These are distance, observer position, form, spatial definition, light and sequence. All of these factors are variable. Some change with the passage of time, others may be changed voluntarily by manipulating the environment.

Form, spatial definition and light are essentially givens and we can do little to or nothing to alter them. Distance, observer position and sequence, however, involve the observer's relationship to the landscape. These factors can be manipulated to enhance visual pleasure. For example, opening areas to frame exceptional vistas or screening unsightly areas can intensify an already pleasurable visual experience.

A conscientious effort has been made throughout this document to

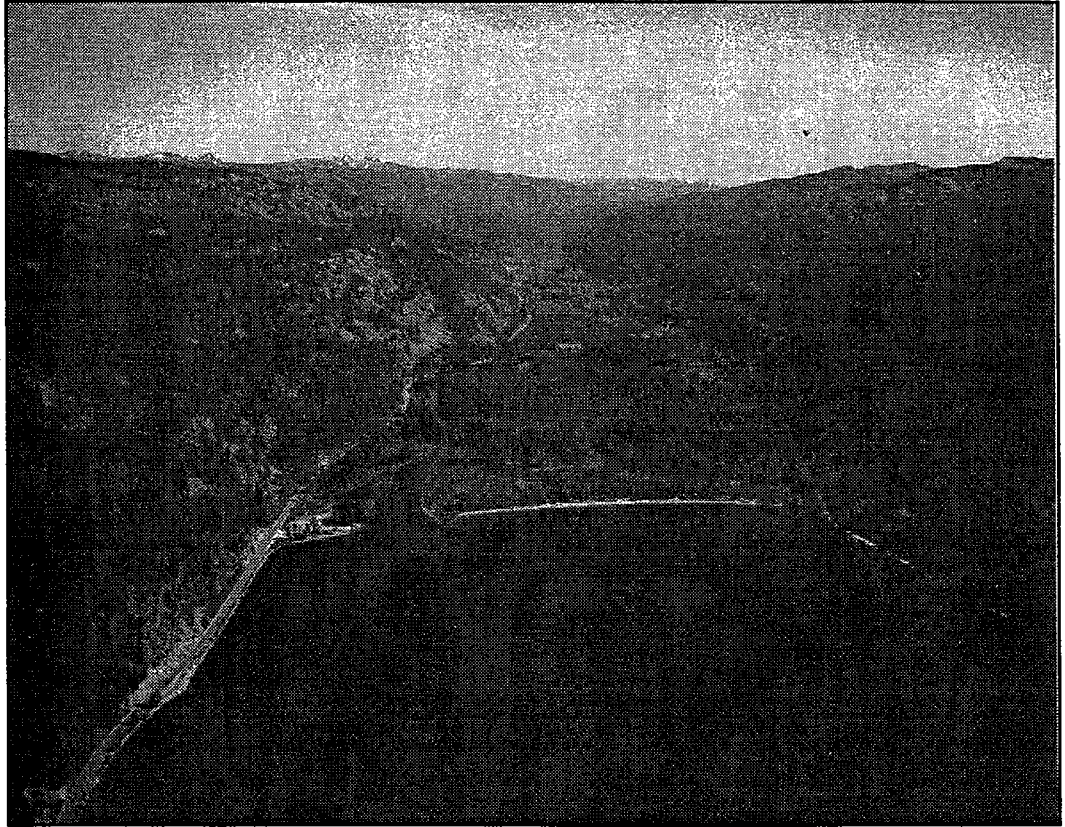
Peninsula Unit scenic inventory map 3.12



capture and verbally convey the character of the park. All senses are required to capture its essence. Areas on the peninsula of particularly exceptional scenic quality are identified on Scenic Inventory map 3.12.

In a broader context, the scenic vistas enjoyed from the peninsula and those presented by the peninsula are of equal value. This interdependence of the community's visual resources is recognized in the vision statement developed for the park which contains the statement, *"The scenic backdrop presented by the peninsula - and the panoramic vistas offered by its overlooks - are trademarks of the area and must be protected."*

North Beach Unit



Aerial oblique photo of North Beach Unit, looking north. Photo courtesy Chet Bowers, Aero-Photo.

Reflections of a River - Floating the North Fork of the Payette

*by Rosemary Hardin,
former IDPR Information Specialist*

Like a mind that casually daydreams on a warm day, free from trepidation as it meanders from one thought to the next, the North Fork of the Payette River quietly flows. From the numerous spruce, aspen and tamarack and occasional Douglas fir that tower above its banks and adorn the surrounding cliffs, to the crimson kokanee spawning in the fall in its clear waters,

the North Fork is an undiscovered haven for canoers, kayakers and rafters who'd rather be soaked by serene beauty than by water from fierce rapids.

The three miles of Class I river--from the put-in to the delta at the head of Payette Lake--is lined with rich wetlands, forest and riparian life. Waterfowl is abundant. Mergansers, canvas backs and mallard ducks find the still waters an ideal nesting habitat. Canada geese and a few loons make their homes in the tall marsh grass that sways gently along the shores. Osprey float effortlessly through the skies above, eyes keened for prey. The steep cliffs which line the river corridor make ideal hunting and nest-

ing grounds for peregrine, prairie and kestrel falcons. Owls also are common to this area.

Farther up the shores, the marshes that run along parts of the North Fork support otter, beaver, muskrat, and rabbits which depend on the unique food and shelter found in these river remnants. Fur bearers like mink, marten, fisher, bobcat, coyote, and fox also make their homes in the wetlands.

Marshes are the most productive habitat for songbirds in Idaho because of food sources and nesting opportunities. Mule and white-tailed deer, elk, moose and black bear come out of the forests to forage for food in the wetlands and come down to the shore to drink from the river. Bear also feed on the spawning fish. Sometimes, paddlers can even hear the loud slap of a

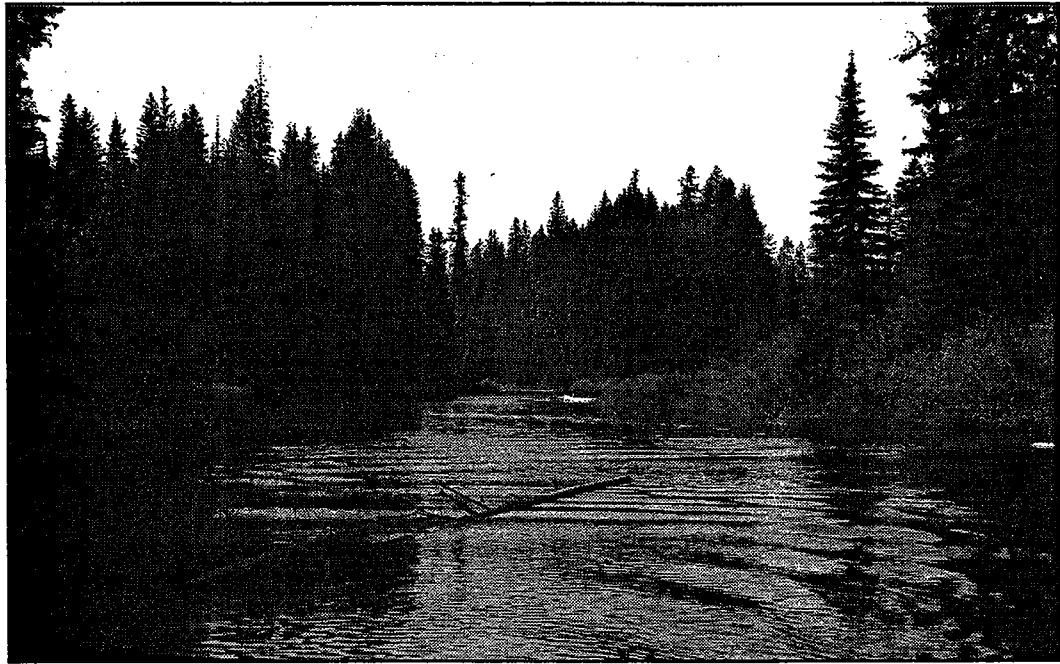
beaver tail on the water echo through the canyon.

Kokanee salmon and rainbow trout are born in this area of the river, and they return at the end of their life cycles from Payette Lake to spawn and die. In the fall, hundreds of the bright red fish crowd the river bed in search of the perfect spawning ground. The clear, shallow water offers observers a unique opportunity to see these fish perpetuate their life cycle.

The Payette River not only supports wildlife, in the 1930s it also breathed life into Depression-stricken McCall. In 1938 MGM Studios came to McCall to film *Northwest Passage*, a major motion picture that starred Spencer Tracy and Robert Young, and featured 900 extras, many from McCall and Boise. The Indian village used in the movie was constructed on what is



Aerial photo of North Beach Unit. The North Fork of the Payette River winds from the right (north) to Payette Lake on the left (south). Photo courtesy of Chet Bowers, Aero-Photo.



A "canoe-eye" view of the North Fork of the Payette River at North Beach.

now IDPR property along the banks of the North Fork from logs and slabs cut at the McCall sawmill.

The set is gone now but the river, like the infinity of time, continues to flow, creating oxbow lakes and marshes that form as the river channel shifts back and forth within its floodplain. The granite cliffs beyond the wetlands and forests stand like gentle giants watching over the fragile ecosystem below and change color as the sun moves through the sky. Evergreens grow precariously in their cracks and fissures.

As the low autumn sun passes through the aspens along the river banks, it filters through the trees' little gold coin-like leaves, illuminating insects and pollen in the air while dancing and glittering as it reflects off the water's surface. The still river perfectly

reflects the beauty which surrounds it, disturbed only by a duck taking to flight or by a canoer's gentle paddle dip.

The river has provided habitat to many living creatures, and to canoers, kayakers and rafters, it will be a valuable and unique outdoor experience. As



boaters round the final bend to the waters of Payette Lake and North Beach and out of the river corridor, gentle breezes kiss their faces as the lake comes into view. In front of them is the greatness and expanse of the big lake; behind them is the surreal memory of a place quietly buzzing with life, tranquility and beauty.

When Hollywood came to McCall

by Maureen Robertson

McCall welcomed Spencer Tracy, Robert Young and Walter Brennan the way New Yorkers donational heroes when the stars of "Northwest Passage" stepped off the train July 4, 1939. According to accounts in the Payette Lakes Star and Cascade News, thousands were on hand to see and cheer the Hollywood stars coming to film sequences of the motion picture in McCall. The scene at the railroad depot and throughout downtown McCall was described as "organized madness" and "wild hysteria."

Having MGM pick McCall for filming "Northwest Passage" was a phenomenal break for area residents and is ranked among the most exciting times in McCall's history.

As if having Hollywood stars filming in the area were not enough, residents were thrilled at the thought of playing extras in the film. Local carpenters and other workers found themselves working amidst the glamorous aura of the movies during Depression years.

"Northwest Passage" is a fictional account of Rogers' Rangers, a band of Americans who aided the British against the French and Indians during the French and Indian War of 1754-1760. Neal and Pearl Boydston talked with The Star-News two year ago, when the "Magic of Movies" was the Winter Carnival theme and "Northwest Passage" was shown in front of the Art Roberts Park.

Boydston and Ed Newell contracted to overhaul cabins at Sylvan Beach on the west side of Payette Lake before film crews arrived in early summer 1938. Carpenters were hired at \$1 an hour, 25 cents more than workers in Boise.

Articles in 1938 and 1939 issues of the Payette Lakes Star, the McCall newspaper, traced the film's progress. Front page accounts appeared each time a director or film manager came to town to check sets or snow conditions.

High water was needed for many of the sequences, so short articles started appearing in April, telling of MGM officials checking weather conditions. The articles continued until the full crew arrived in early July.

MGM unit manager and acting director Frank Messenger, who made frequent trips to McCall

before each of the two summer shootings, credited MGM's interest in Payette Lakes to Carl Brown, owner of the McCall sawmill who also was a state senator. The area had everything necessary to film specific sequences and they were all in one spot, Messen-

ger said.

A Boise newspaper gave an account of Warren Brown, Carl's son who still lives in McCall, greeting MGM emissaries to McCall prior to their selecting the town. Warren's hello was a "sightseeing taxi," a huge logging sled and large tractor.

Thousands were reportedly in downtown McCall on July 4, 1939, when the stars and film crew arrived. Women screamed when they spotted the Hollywood stars but men seemed more interested in vying for a better spot to see.

Downtown traffic was snarled the entire day and one woman reportedly said after Tracy walked by her:

"If only I had had a pair of scissors, I could have cut off a piece of his coat for a souvenir." MGM leased the entire Sylvan Beach, located north of Wagon Wheel Bay, during the filming. According to a November 1978 article in High Country magazine, 40 log cabins and two frame dormitories were put up for the film Pearl Boydstun recalled it was "a mad rush" for Neal and Ed to get everything ready in time, since there was no place else in town that could accommodate such numbers.

The initial high tone of excitement simmered as people got used to the hustle of the film world and the sight of famous people. Frank Holbrook, retired major general in the U.S. Army, went so far as to say "it wasn't long before McCall became completely movie-oriented."

Holbrook wrote about the film-

ing for the McCall Area Chamber of Commerce's 1981 Winter Carnival brochure. He described the MGM folks as "buzzing around town, with their caps on backwards, wearing flashy knickerbockers, knee-high socks and multicolored shirts and sweaters, and all carrying clip-boards and looking very busy and speaking in the movie jargon of the day."

Holbrook, who has since died, was staying at his parents' cabin on the lake at the time. He told The Star-News that he received permission to do some of his own shooting with a 16mm camera "as long as I kept out of range of the (MGM) camera."

He said crew members and directors rode back and forth through town on motorcycles or in open cars.

A number of residents got jobs as extras, some as Rogers' Rangers and some as Indians. In a June 1939 newspaper article, men wanting jobs as Rangers were told to start letting their beards grow and to fill out registration cards at the McCall Hotel and specific places in Donnelly, New Meadows and Cascade.

Boydstun said "ordinary people" received \$5 a day as extras and those with beards got \$5 more. "Anyone who looked like an indian got extra money too," Pearl added.

According to High Country, 364 Indians came from seven reservations in the Pacific Northwest to portray warriors, old men, women, children and papooses. The Indian village of St. Francis was set up at the north end of Payette Lake and 30 boats were used to get the Indians there from Sylvan



Photo of St. Francis Village set from "Northwest Passage" filmed at North Beach Unit. Photo courtesy of the Brown family.

Beach.

Logs and slabs from the saw-mill in McCall were used to put together the fort used in the film, Holbrook said, and, based on articles in the Payette Lakes workmen started in mid-May of 1939 to get the fort done by July.

Sightseers were asked to not go near the set when the crew was filming since absolute quiet was needed. One day, however, a young boy apparently got close enough to have sound equipment pick up his "oh, they shot the Indian," costing MGM \$5,000.

A "human chain" of 225 Rangers crossing the upper Payette River received a lot of media attention. The chain had men in "very cold," shoulder deep water.

Professional life guards were posted below the scene and camera platforms, built in the river, were used to get close-ups. Expert swimmers who

were playing Rangers, according to the High Valley article, were told to purposely lose their grip and disappear into the swirling river pools. The life guards were there in case anyone needed help getting to shore.

MGM reportedly spent about \$2.5 million dollars making "Northwest Passage," and estimates are that half of that sum was spent in McCall. Most of that went to construct the three major sets and crew housing.

Most of the buildings set up for the film are gone. Holbrook said in an interview before his death that some of the cabins at Sylvan Beach are still there but have been altered. St. Francis was burned as a part of the film and the fort set up at Crown Point, where the Girl Scout camp is now located, didn't last.

"The fort was made to look like stone ... but it came down pretty fast,"

Holbrook said. "I think it was mostly papier-mache."

PHYSIOGRAPHY

The North Beach Unit of Ponderosa State Park is located at the extreme north end of Payette Lake, approximately eight miles north of McCall. The bulk of the unit's 489.90 acres are located within the flood plain of the North Fork of the Payette River, which winds snake-like southward to its mouth at the head of Payette Lake.

The unit measures approximately 1-1/4 miles in length along its north-south axis and averages slightly over three-quarters of a mile wide. Canyon walls rise to elevations over 5,700 feet on the unit's eastern and western flanks. From the tops of these granite sentinels, Cascade Lake can be seen 25 miles to the south. The topography of the valley floor seldom rises more than 20 feet above the riparian/wetlands environment. The river falls at a gradient of only three feet per mile as it meanders through the unit on its 2.3 mile serpentine journey through the unit to its delta.

One of the primary features of North Beach is its 3,000 feet of lake shore line of which 1,650 feet is a sandy beach. The size of this natural sandy beach and its southern exposure make it a popular day-use area on Payette Lake. The physiographic attributes of the North Beach Unit are shown on map 3.13

NORTH BEACH UNIT SOILS

The soils of the North Beach Unit are derived primarily from granitic parent materials and have been influenced by glacial activities. As a result, they vary considerably in terms of physical and chemical properties.

These soils are rated in the accompanying Soil Suitability Matrix Table 3.3 Various limitations affect their suitability for recreational use and construction of recreational facilities. The ratings are based upon such features as flooding, wetness, slope and texture of the surface layer.

The degree of limitation of the soils is expressed as slight, moderate or severe. *Slight* means that the soil properties are generally favorable and that the limitations are minor and easily overcome. *Moderate* means that the limitations can become easily overcome or alleviated by planning, design or special maintenance. *Severe* means that the soil properties are unfavorable and that the limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use or by a combination of these measures. Unfortunately, many of the North Beach soils fall into this latter category.

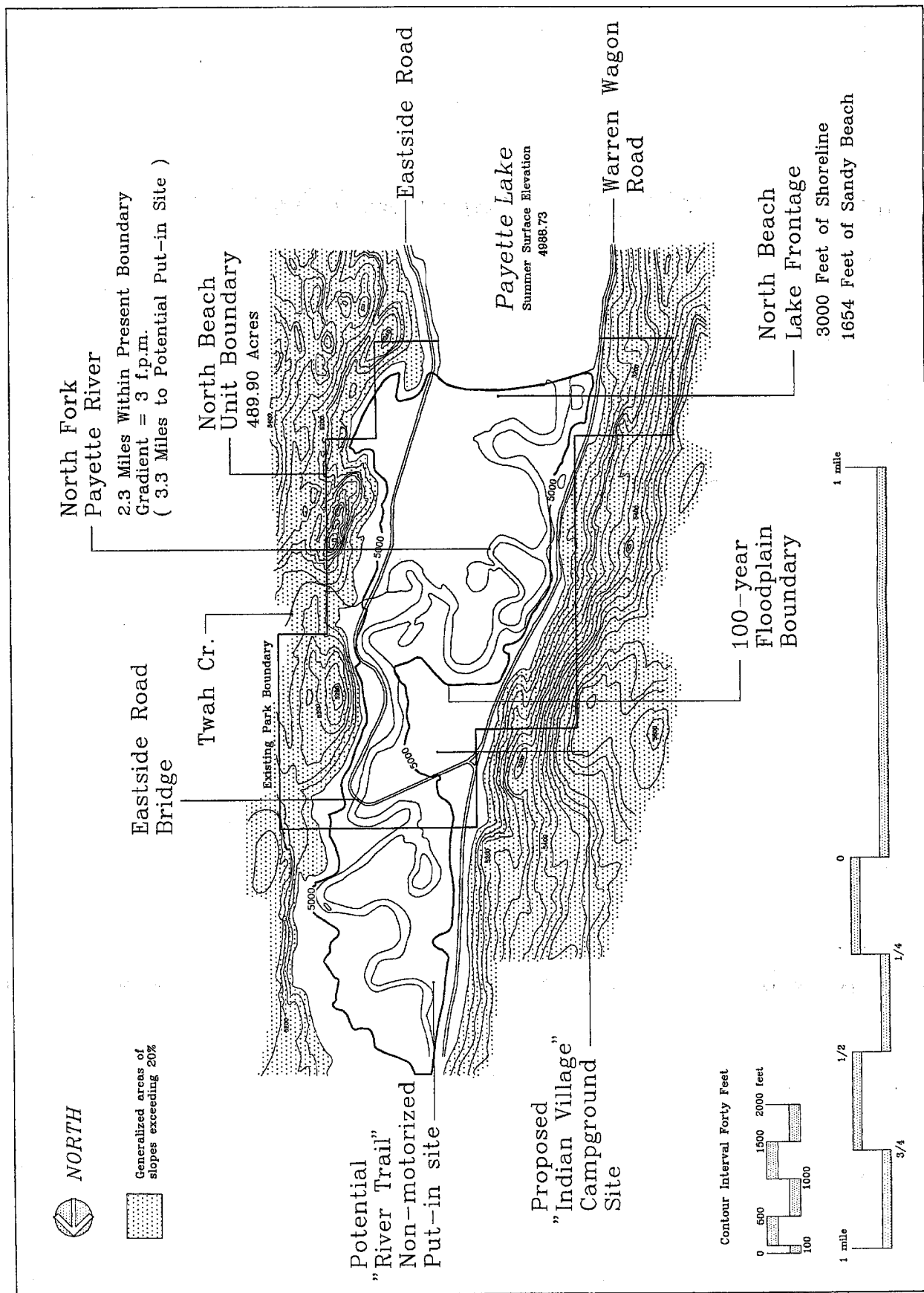
These soils vary widely in their potential for land uses. The soils in the North Beach area have also been rated for their ability to accommodate intensive and extensive recreational uses. *Intensive* recreation areas include campsites, picnic areas, ball fields and other areas that are subject to heavy



NORTH BEACH UNIT PHYSIOGRAPHY



Map 3.13

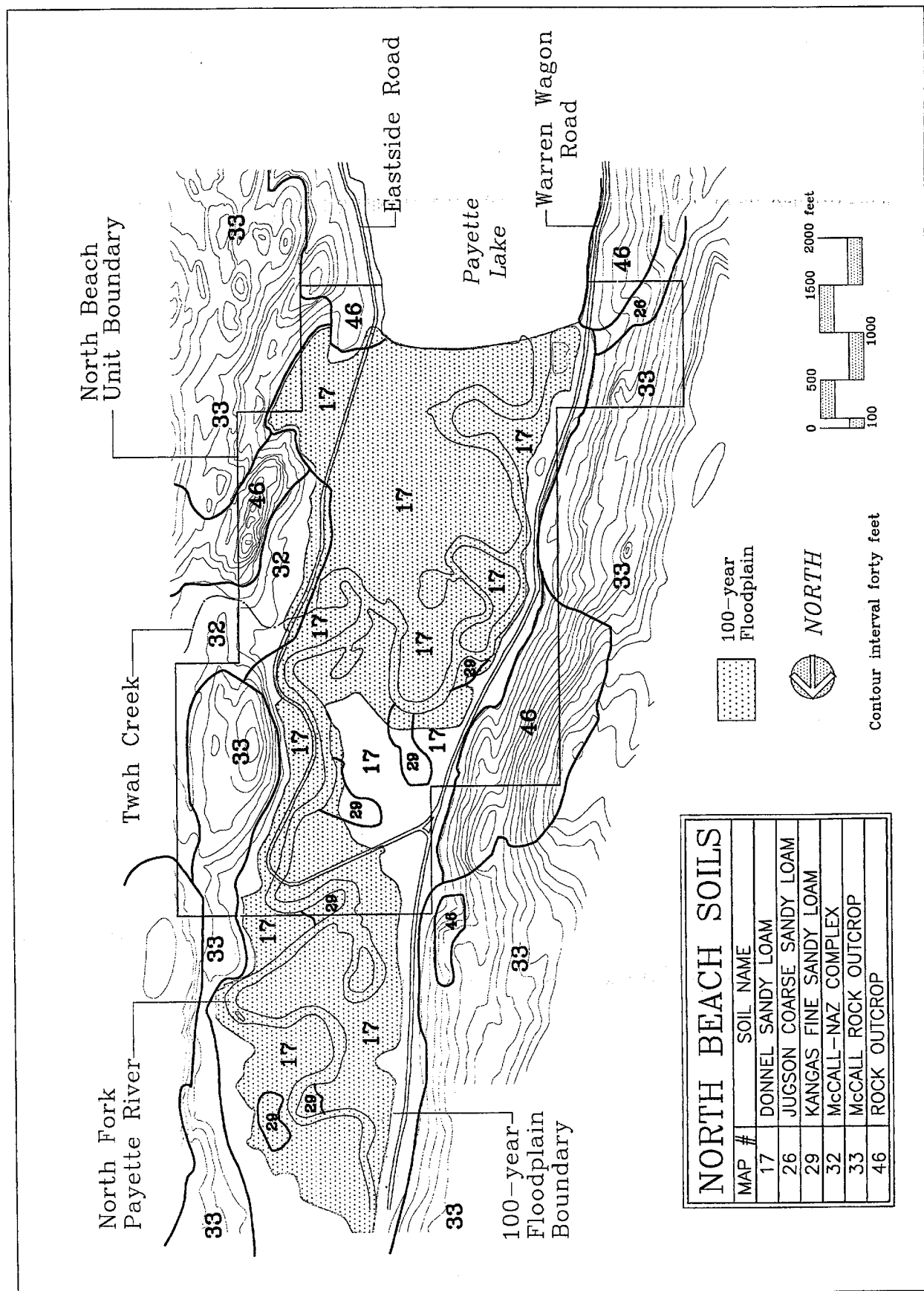




NORTH BEACH SOILS INVENTORY



Map 3.14



foot traffic. *Extensive* recreation areas include those used for nature study and as wilderness. These ratings also appear in Table 3.3. The soil types described below are present in the North Beach Unit. The general descriptions of the soil series have been obtained from the *Soil Survey of Valley Area, Idaho*, USDA Soil Conservation Service. Their range and extent are depicted on Soils Inventory Map 3.14.

Donnel Sandy Loam Series (Map Unit 17) - The Donnel Sandy Loam a very deep, well drained, gently sloping soil. This soil formed in granitic alluvium. It is on alluvial fans and terraces on the valley floor. Runoff is slow and the hazard of erosion is slight. This soil is well suited for urban use, roads and recreation facilities.

•**Judson Coarse Sandy Loam (26)** - This is moderately deep, somewhat excessively drained, steep soil. This soil formed in material weathered from

granite. It is unsuitable for many recreational uses by the moderate depth to rock and the steepness of the slopes. Decomposing biotite granite is encountered at a depth of approximately 35 inches.

•**Kangas Fine Sandy Loam (29)** - The Kangas series consists of sandy, mixed Entic Cryumbrepts derived from granitic parent materials. These soils are very deep, somewhat excessively drained and have formed in glacial outwash (gravel, sand and silt commonly stratified and deposited by melt water as it flows from glacial ice). The Kangas series occurs on outwash plains and terraces with slopes ranging from zero to 3 percent.

•**McCall-Naz Complex (32)** - The McCall series consists of gently sloping to steep soils that are on glaciated mountain benches and meadows. In areas of glacial deposits this soil is very deep and excessively drained. The Naz

NORTH BEACH UNIT SOIL SUITABILITY MATRIX													
DEGREE OF LIMITATION		buildings	roads and streets	absorption fields	risk of corrosion	potential frost action	flooding frequency	erosion hazard	campgrounds	picnic areas	paths & trails	intensive recreation	extensive recreation
L=little M=moderate S=severe													
POTENTIAL FOR OCCURANCE													
N=none R=rare L=little													
M=moderate U=unrated													
DEGREE OF SUITABILITY													
G=good F=fair P=poor													
MAP #	SOIL NAME												
17	DONNEL SANDY LOAM	L	L	L	H	L	N	L	L	L	L	F	G
26	JUGSON COARSE SANDY LOAM	S	S	S	M	M	N	L	S	S	S	P	G
29	KANGAS FINE SANDY LOAM	S	M	M	M	L	R	U	S	M	M	P	G
32	McCALL-NAZ COMPLEX	S	S	S	M	M	N	M	S	S	S	P	G
33	McCALL ROCK OUTCROP	S	S	U	H	M	N	S	S	S	S	P	P
46	ROCK OUTCROP	U	U	U	U	U	U	U	U	U	U	P	P

Table 3.3

soil is in areas of residual soil material, and typically has a one-inch thick organic layer that overlies the surface layer. The Naz soil has rapid permeability and the hazard of erosion varies from slight to severe.

McCall Rock Outcrop (33) - This complex consists of steep soils and areas of rock outcrop on glaciated mountains. Rock outcrop consists of areas that have large surface boulders and exposed granitic bedrock. Runoff is very rapid and the hazard of erosion is severe.

HYDROLOGIC EVALUATION

*Contributed by Margaret Hillhouse,
Hydrologic Consultant*

Since the end of the last glacial period, the North Fork of the Payette river has down cut through glacial outwash, leaving terrace remnants and more recent meander cut-off channels. Topographic lows, resulting from the in-filling of old channels, are now wetland areas.

A dam was constructed at the outlet to Payette Lake in 1923 to provide supplemental storage for downstream irrigators. Reconstructed in 1944, the lake level can be adjusted seven feet. Full pool is usually achieved by late June, subsequent to snow melt. Drawdown begins in mid-summer, in conjunction with three other dams on the Payette River system, and the base level is reached by October.

Above Payette Lake, the North Fork drains a watershed of approximately 104 square miles. This drain-

age basin is shown on map 3.15. Sediment originating in the upper half of this basin will mostly be deposited in the Upper Payette Lake. In the 10 mile stretch between Upper Payette Lake and Payette Lake, numerous tributaries enter the river, annually contributing an increment of sediment to the river. Most of this sediment occurs in the sand-sized fraction, reflective of the granitic parent material of the watershed.

As the river's gradient diminishes, some of this sediment begins to settle within the channel. This is especially evident in the lower river segment situated in the North Beach Unit. Some sediment will continue to be carried to the mouth where it is deposited as a delta into the lake.

Bank Stability

Stream bank stability is provided through the dynamic balance of vegetation, stream bank materials and erosional forces. The river's erosional forces are continually at work in this reach as evidenced by raw cut backs on the outside of meander bends and unvegetated, depositional point bars developing on the inside of meander loops and areas of lesser current. Stream-bank materials are generally fine-grained with some boulder and cobble content. Most of the protection to stream banks is provided by living vegetation and to a lesser degree, by abundant downed woody debris.

The effects of the fluctuating lake level are apparent up the river channel due to the low gradient at the inlet

to Payette Lake. This fluctuation has a significant influence on vegetation establishment and maintenance. In a snowmelt-dominated system, as found in this climatic region, vegetation is adapted to seasonal flooding. When the lake level is controlled, flooding is prolonged and flood-adapted vegetation is unable to survive the submergence. Emergent vegetation, likewise, will not survive the late-season drought. The river banks are thus more susceptible to the erosional forces of waves and precipitation as lake level recedes.

Beach Processes

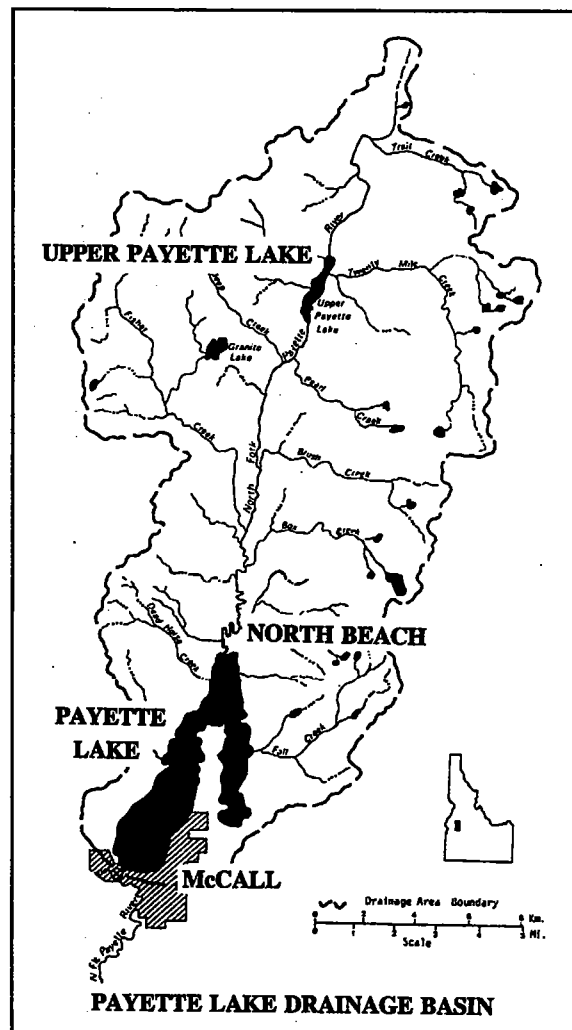
Wind and waves are the dominant forces which created and maintain the current expression of North Beach. Wave action reworks the sediment deposited at the inlet to the lake, and also has reworked the alluvial and outwash material which forms North Beach. With a fairly consistent environment, vegetation has established itself on these sandy barriers. The beach provides important protection to the more fragile wetlands behind it.

Recreation Impacts

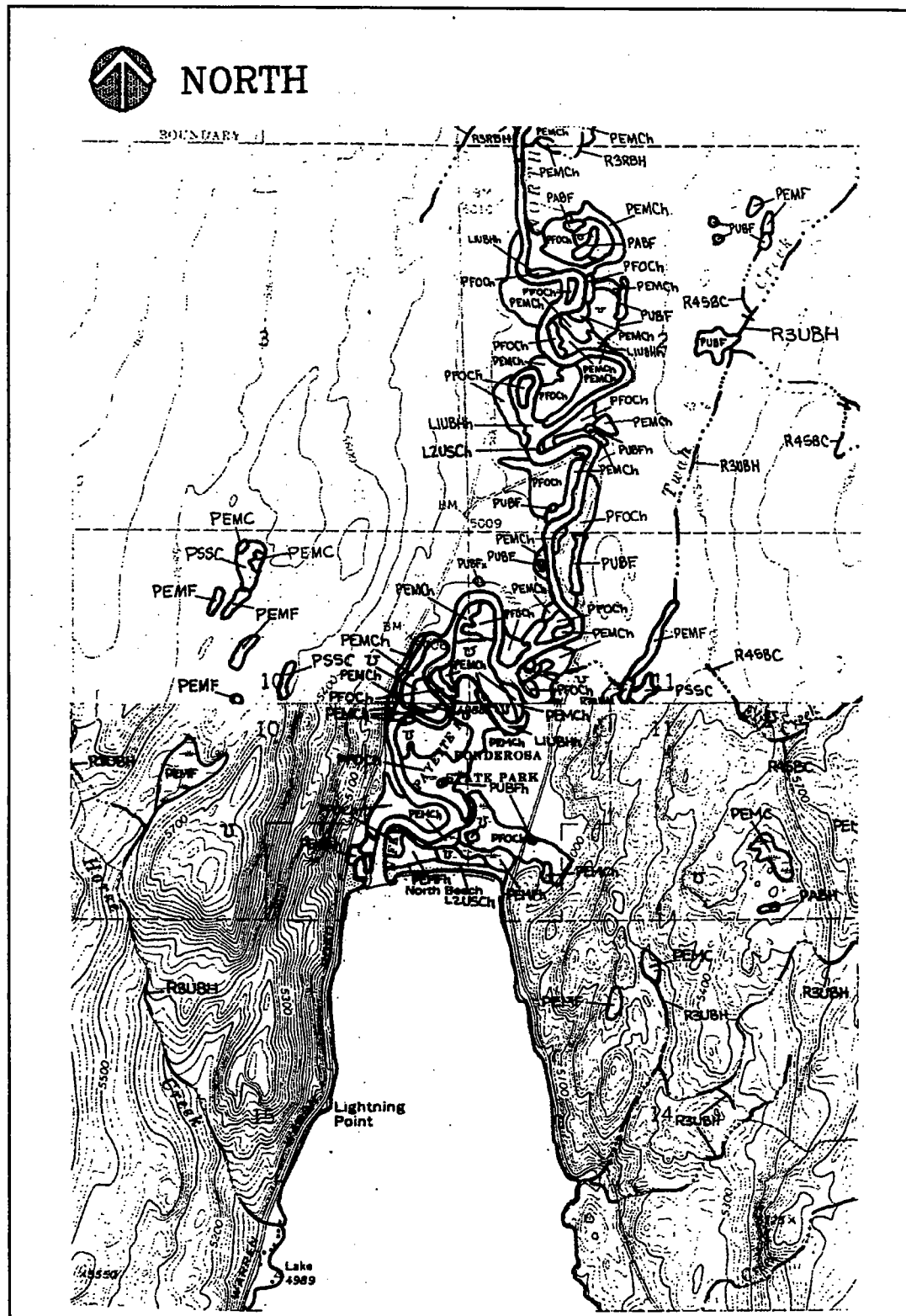
The impact from recreation can be seen at several locations along the river channel and at both sides of North Beach. Soil compaction, increased bank erosion and the consequent loss of vegetation are the primary effects of recreational uses. These factors prevent regeneration of desirable woody species which could slow site deterioration.

Sand Excavation

Through the years, local contractors have been excavating sand at the west side of North Beach. The present location of the river channel within the delta is partially due to the removal of material. Continued excavation from this area would deplete supplies necessary for the maintenance of the western portion of North Beach and could force the river channel westward against the road bed.



*Payette Lake
drainage basin
map 3.15*



USFWS wetlands
inventory map of
the North Beach
Unit, map 3.16.

Unless more resistant materials are placed or deposited along this section of beach, the river will continue to cut into the south face of the beach at an accelerated rate, especially in combination with the recreational factors affecting this section of the beach. This scour of the beach front could result in accelerated loss to the western beach area.

Recommendations

1. Protection and enhancement of the west side of North Beach could be achieved by relocating the river channel to east through the present sandbar. Installation of modest rip-rap along the end of the western beach area could help protect the beach, but may not be necessary if the new channel is allowed a similar width to the present channel. Some of the sand removed from the sandbar should be placed on the western beach, allowing wind, waves and the river to shape it on the beach. Removal of the sandbar should not be considered because of its function to recharge the east beach area.

2. Enforcement of a no-wake zone within the river channel upstream of the beach is highly recommended to protect stream banks already stressed by lake level fluctuations and use patterns. Vegetation would be given a better chance of survival. Healthy stream banks would also be a benefit to terrestrial and aquatic wildlife such as fish, songbirds, water fowl, deer, bear, and other animals.

3. Large woody debris is important for stream bank protection. There is no need to remove any that is in the

channel or which may fall into the channel. Standing trees on the stream bank, both dead and alive are needed to provide bank stability through the root masses and as in-channel debris.

4. Recreational uses within the river corridor and along the beaches should be managed to reduce impacts to existing vegetation and unstable stream bank areas. Highly erosive soil material in most of the higher stream cuts makes it highly susceptible to disturbance. Use of specific hardened sites is preferable to allowing expansion of the use along more of the stream length.

WETLANDS

The North Beach Unit of Ponderosa State Park contains significant and extensive wetlands and riparian ecosystems. These areas are delineated on the accompanying Wetlands Inventory Map 3.16.

The USFWS classification Table in Appendix I details the classification system.

WILDLIFE

*Contributed by Steve Nadeau,
IDF&G Wildlife Biologist*

Fishery

The shaded banks, lush riparian vegetation and insects within the North Beach Unit create a rich feeding, resting, spawning and staging area for many species of indigenous fish. The Idaho Department of Fish and Game has proposed doubling the kokanee numbers in Payette Lake from 20,000 to 40,000.

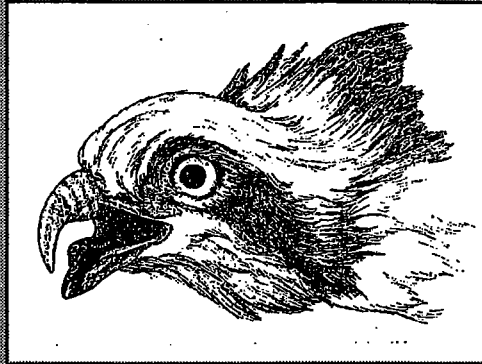
The Osprey

The osprey is commonly known throughout the country as the Fish Hawk. This is a good name for it since its food consists entirely of fish. The osprey is the only hawk in the world that dives into the water for fish like a pelican. But unlike a pelican which uses its pouch-like mouth, the osprey uses its talons (or claws) to secure and capture fish.

The osprey usually hunts in relatively shallow water because it lacks the ability to dive into deeper water. Unlike the Bald Eagle, the osprey is not a scavenger and will not touch dead fish that have washed up onto the shore.

The osprey has a wingspread of four to six feet, are blackish above and white below. The largely white head suggests a Bald eagle, but unlike the Bald eagle, the osprey has a broad black patch through its cheeks. Where the osprey and Bald eagle are both found, they can be differentiated at a distance by their manner of soaring. The Bald eagle soars with flat wings while the osprey soars with a kink or crook in its wings. The osprey can often be seen hovering over a body of water before it plunges feet-first for fish.

The nest is a large bulky mass of sticks usually in a snag (a dead tree that is still standing). Where birds are left unmolested, the nest may be used for many years and is constantly being added to. It can become a massive structure, sometimes reaching a diameter of five feet. Osprey lay 2 to 4 eggs. Incubation lasts for about 28 days and is performed solely by the female. Nesting season is between April 1st to September 30. Young birds remain in the nest



for about 8 weeks. Ospreys are usually mated for life.

Population declines occurred during the 50's and 60's due to cumulative poisoning from the insecticide D.D.T., which the osprey obtains from its prey. This insecticide affects the bird's calcium metabolism causing the osprey to lay thin eggshells which are then accidentally crushed by the incubating female. The chemical D.D.T. has been banned for some time but the osprey is still continuing to recover from its effects.

Today appropriate nesting sites are a limiting factor over much of the ospreys range. In this area, ospreys historically nested in old-growth (200 years or older) ponderosa pine snags.

Several pairs of osprey nest each year on the peninsula. Unlike most osprey nests, which are found on private property or inaccessible back country, both the osprey and their impressive nests can readily be seen by the park visitor.

The health of this stretch of river is critical in meeting this goal. Recreational fishing along this stretch of the North Fork is an important pastime for many local and visiting sports enthusiasts. Trout reach a large size and are abundant throughout the summer, mostly due to the unique water quality and health of the system.

Fluctuating water levels and frequent use of the river by motorized watercraft have contributed to the degradation of the stream banks. Bank erosion and failure, root exposure and subsequent tree collapse, causes shrinking of the riparian habitat and are indicators that signal potential problems for water quality and fisheries health in the area.

Birds of Prey

Raptors find hunting for rodents, songbirds and insects very productive in these habitats. Cliffs bordering the riparian zone create ideal nesting for peregrine, prairie and kestrel falcons. Even though this area is excellent nesting and hunting habitat for falcons, the limited availability of nesting habitat near feeding areas appears to keep Idaho's falcon populations low.

Owls are common in this area and comprise a significant predator component to the ecosystem.

Waterfowl and Shore birds

The slow-moving and meandering water, with many eddies and sloughs, creates good waterfowl and shore bird nesting habitat. The fluctuating water level caused by the dam at

Upper Payette Lake is probably responsible for some unsuccessful waterfowl nesting. Fluctuating levels during breeding season may submerge nests or conversely leave them too far from water, especially for diving ducks (their legs are too far back on the body to easily walk on land).

Insect and aquatic life are frequently disturbed, as is submergent vegetation when water levels fluctuate abnormally. Boats and personal water crafts, like Jet Skis, cause disturbances during breeding and rearing periods, often when waterfowl are flightless. Personal water crafts have been observed chasing waterfowl and exhausting them during this flightless stage on Payette Lake and Cascade Reservoir. Even if not chased, the frequent disturbance of a nest can cause abandonment and wakes from motorized watercraft cause temporary nest submergence, cooling of eggs, nest destruction and indirect mortality.

Songbirds

A variety of songbirds are found in this wetlands ecosystem. The insect and plant life provide excellent forage for birds, while snags provide forage and nesting cavities for many species. Marshes are the most productive habitat for songbirds in Idaho.

Big Game

The dense, lush vegetation creates an ideal habitat for whitetail deer. Mule deer often are seen in and around wetlands. Elk frequently use this area for foraging and bedding. Although in-

frequently seen, moose occasionally travel through the area. Black bear forage on the lush grasses, herbs, berries and spawning kokanee. Mountain lion feed on deer, rabbit, hare, muskrat, beaver and other small animals.

Fur bearers

Mink, marten, fisher, bobcat, coyote, fox, beaver and muskrat are residents here. Every species of fur bearer will occasionally if not exclusively use wetlands.

Rodents

A very integral part of the ecosystem is the rodent population. They eat the thick vegetation, aerate the soils and provide an important biomass for predators.

Recommendations

1. Water levels should remain relatively stable during waterfowl nesting periods in May and June to enhance nesting success.

2. Water levels should be maintained to reduce bank erosion and increased siltation.

3. Motorized watercraft should be eliminated, or restricted to prevent wildlife and waterfowl disturbance, especially during nesting and flightless periods from May through mid July. Wake-caused erosion would also be eliminated. An area closure or restriction from North Beach to the bridge should be delineated.

4. Wildlife enhancement projects, like duck boxes, owl boxes, osprey platforms and goose platforms should be

incorporated into management objectives and coordinated with the Department of Fish and Game and the local nongame committee.

5. Campgrounds and picnic sites should be improved to prevent degradation caused by dispersed use. These sites should include sanitary facilities. There are presently several overnight camping areas that could either be improved to accommodate two to three parties per site, or restricted by allowing only day use.

Small overnight campsites that are properly maintained should not be detrimental to the quality of the sensitive ecosystem. Dispersed use, however, is detrimental through litter, human fecal matter and trampled vegetation.

6. An interpretive area could be installed near North Beach. Information and education concerning fish and wildlife in wetlands--and the impacts of human use--could be valuable in promoting in compliance with management regulations. It would also foster an appreciation of the unique character of this freshwater wetlands ecosystem. Signing and displays could be coordinated through the IDFG and the local nongame wildlife committee.

ADJACENT LAND USES

The North Beach unit is completely surrounded by properties owned and managed by the Idaho Department of Lands.

EXISTING IMPROVEMENTS AT NORTH BEACH

Transportation System Infrastructure

The unit can be reached from McCall by two routes. Warren Wagon Road (paved) follows the west side of the lake and the Eastside Road (gravel) parallels the east side of the lake. Via Warren Wagon road, the unit is approximately eight miles from downtown McCall and 10 miles from the visitor center at the Peninsula Unit.

Utility System Infrastructure

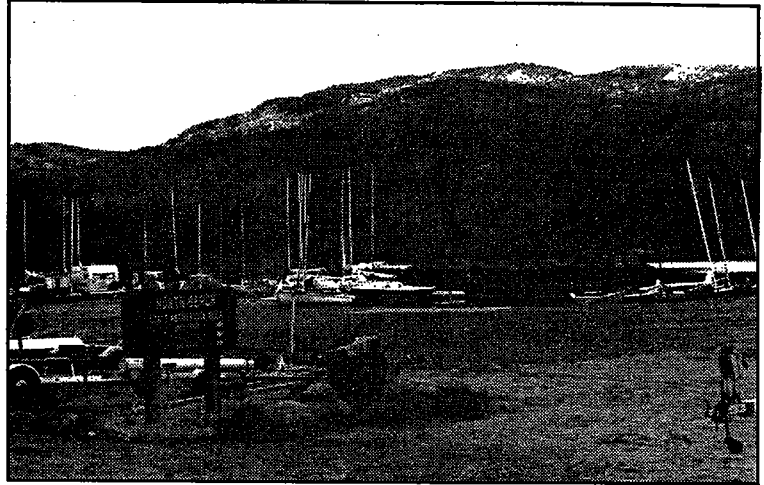
There are currently no utilities serving the North Beach unit. The nearest utility is electricity. Currently, Idaho Power transmission lines extend northward to within .9 mile of the existing west side boat launch.

West side Boat Launch

The existing boat launch facility has the only boat ramp serving the northern portion of Payette Lake. This one-lane concrete ramp allows shallow-draft boats to be launched into a shallow lagoon that was excavated several years ago as a sand source. The launch has an associated gravel parking area that can accommodate 10 to 15 vehicle/boat-trailer combinations. A sub-standard, two-unit vault toilet is currently the only permanent sanitary facility serving the North Beach Unit.

North Beach Day-Use Area

This sandy beach area is possibly the finest, south-facing recreational beach on Payette Lake. At this time,

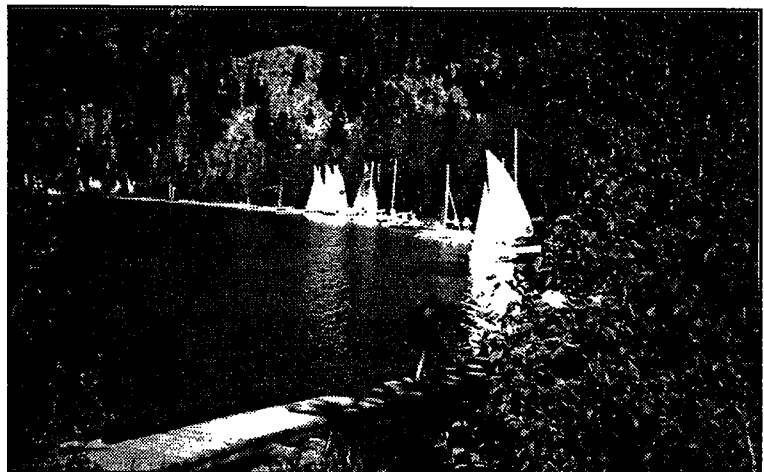


Existing west side launch parking area, North Beach Unit.

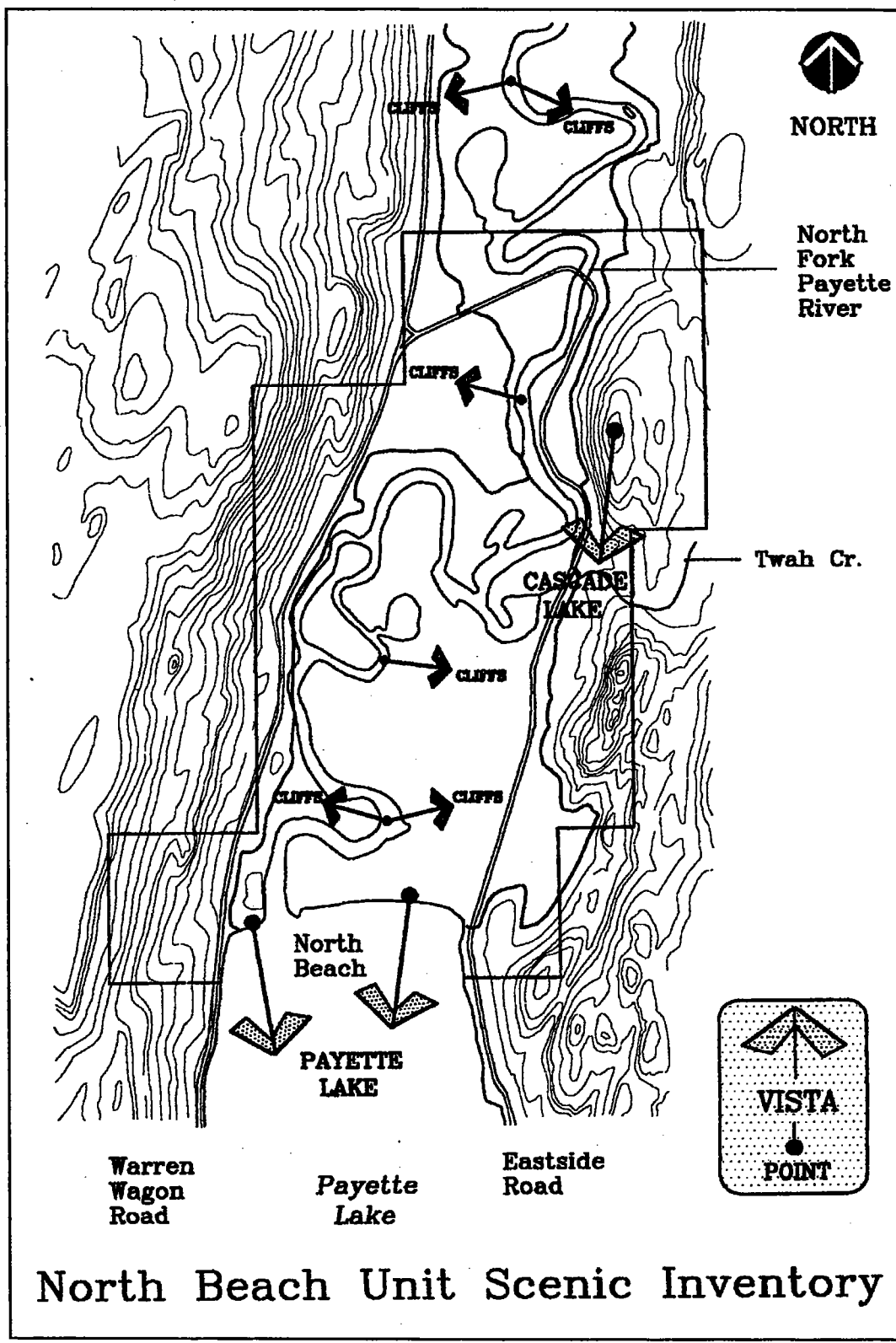
there are no facilities to serve beach users; however a 23-car parking area, pedestrian accessway to the beach and two-unit vault toilet are under construction. These facilities will be completed before the end of the 1994 recreation season.

Indiscriminate Camping

For years, campers preferring a more primitive kind of camping expe-



North Beach, east side.



Scenic inventory map 3.17

rience have camped at North Beach. There have never been officially designated campsites to accommodate this use. To the contrary, utilization of the unit for camping has been historically discouraged. This was due to the great potential for damage to the units fragile resources. However, indiscriminate camping continued, and these "de facto" campsites are evident throughout the unit. In popular areas this has lead to extensive resource damage.

North Beach Unit Scenic Inventory

The primary scenic opportunities at North Beach Unit are seen by looking upward at the soaring, glacially-carved granitic cliffs. Pleasant ground-level views of Payette Lake are seen from both North Beach and the westside boat launch. A dramatic view extending as far as Cascade lake can be seen from a spetacular vista point found on the eastern cliff. The scenic inventory of the North Beach Unit is presented on map 3.17